**Crosby, Michael**

**From:** Carter, Lonnie
**Sent:** Monday, November 28, 2016 1:08 PM
**To:** MARSH, KEVIN B (KMARSH@scana.com)
**Subject:** Wednesday's SCE&G/Santee Cooper meeting
**Attachments:** Nuclear Timelines--Project Management.docx; Nuclear Timeline-Bankruptcy.docx; Securitization Assessment Nov 28 2016.doc.docx

Kevin,

This letter is sent to assist you in preparation for our meeting on Wednesday (11/30), as both our teams prepare for the joint Board meeting scheduled on December 5. We both share the strong desire to work as a team to see the Summer 2&3 Project successfully completed. This letter is offered in that spirit:

From Santee Cooper's perspective, there are 3 primary items we need to discuss on Wednesday. Candidly, the first two have become items of frustration for Santee Cooper, and have put me in an awkward position with my Board, who are insisting to know why no action has been taken. I asked Santee Cooper's team to prepare timelines which show when the items were raised and discussed. These timelines are written from Santee Cooper's perspective, and perhaps will provide insight to your team.

1. Increased project management expertise in large scale EPC construction.
2. Bankruptcy counsel.
3. Release of the Bechtel Report to the Cooperatives.

**Increased project management expertise in large scale EPC construction--**We need to be prepared to discuss with our Board, after two years of requests and an affirmative commitment from you on more than one occasion, why this has not yet been done. The attached timeline is illustrative.

The formation of the CORB was SCANA's response to the Betchel Report and Santee Cooper's request for better Project oversight with large EPC experience. Based on the recommendations we heard at both CORB briefings, I am concerned that we learn critical information too late from an outside team that comes in quarterly for a few days, which should have been brought to our attention by our teams. The information we learned last week was very important and key to the effectiveness of our President's Meetings with WEC and Fluor.

As we discussed following the call, we must determine if our teams have the knowledge and expertise to glean this key information. If they do have the knowledge and expertise, then what are the reasons the information does not reach us? If they do not have the knowledge and expertise, what can be done to staff in such a manner to have this information available in a timely manner? I recommend that we move quickly to act on the CORB's recommendations and set specific timeframes for our team to implement.

**Bankruptcy counsel**—Bankruptcy expertise would significantly inform our team as we negotiate with WEC going forward. Our separate, collective and independent analysis suggests that the fixed price option offered by WEC is likely significantly less than the cost WEC will incur to complete the Project. This is the very reason that we selected the fixed price. Regrettably, we must anticipate WEC having financial difficulty completing the Project, particularly in a timely manner. We should consider all options available to us that will insure WEC lives up to our Agreement. Our strategies should contemplate potential bankruptcies for both WEC and Toshiba. Toshiba's weakened financial condition is an unfortunate development as WEC's guarantor that we must also consider.

After no action on our repeated requests on this topic, as indicated in the attached timeline, I asked our legal team to find bankruptcy counsel. When we advised the SCANA team of this and our recommendation, no response has been received. This issue is of such concern to the Santee Cooper Board (as the timeline shows this was brought up at our first joint Board meeting) that I further asked our legal team to conduct an assessment of the securitization of the Project in the event WEC is unable to finish. This is something that

would typically be undertaken by counsel with bankruptcy expertise. The securitization assessment is attached for your benefit. We will be prepared to discuss it further on Wednesday.

**Release of the Bechtel Report to the Cooperatives**—We are backed into a corner on this. Our largest customer, having learned of it through intervention in SCE&G's fixed price petition, demands a copy of the report. Our requests to your legal team to put some parameters around the disclosure has been met with the response that we should not release it. Not releasing this information will likely bring formal requests that will be an untenable position for both our companies.

We look forward to our discussion on Wednesday.

Thanks,
Lonnie

# Nuclear Timeline—Additional Project Management Request

For well over two years, the Santee Cooper Board and management team have been pressing SCANA to substantially enhance the construction project management team by repeated direct requests, through the Bechtel analysis, and via the CORB process, as indicated by the timeline below.

**Timeline: Project Management**

May 2014: **Roll-up Letter** - Shortly after sending the May 2014 roll-up letter to WEC receiving the $1B EAC (Aug), Santee Cooper began discussions with SCE&G executives to engage outside assistance with management of the EPC contract.

Sep 3, 2014: **Marsh email to Carter (September 3, 2014 at 2:06:00 PM EDT)** …

"We are ready to move forward with hiring/engaging an additional resource with significant construction expertise to assist us with evaluating the construction schedule and project status. I believe having this person on our staff vs. working as a consultant will avoid conflicts with the consortium on proprietary matters."

Feb 17, 2015: **SCANA Meeting (Timmerman's old office)** - Marsh, Byrne, Carter, Watson, Crosby) - Santee Cooper suggests Bechtel for project review, providing SCANA with a project assessment proposal to assist in identifying areas for improvement.

Apr 7, 2015: **Bechtel Meeting (SCANA Hangar)** - Team Marsh, Team Carter, & Bechtel – Bechtel introduces its nuclear team and presents assessment proposal. Kevin agrees to seek SCANA Board approval to go forward with an assessment.

Apr - Aug: **SCANA and Santee Cooper Board approvals received** - to move forward with a Bechtel project assessment.

Aug 10, 2015: **Bechtel Assessment** – finally begins. Much time lost April through July getting Roderick & Asherman engaged and NDAs and PO in place. To push forward, Santee Cooper made the Bechtel assessment a "requirement" to proceed with the (stalled) negotiations that eventually led to CB&I exiting the Project.

Aug – Oct: **Bechtel Calls** – Craig Albert holds weekly calls with Marsh & Carter. SCANA NND project leadership has limited involvement in the assessment. Cherry steps up to lead effort on behalf of Owners. Cherry engages Archie in a daily effort to force WEC (Benjamin / Roderick) to release engineering & schedule documents. Carl Rau & Roderick eventually have a heated email exchange. Documents are finally released to a reading room only - the assessment effort is a challenge.

Oct 22, 2015: **Bechtel Meeting (SCANA HQ)** – Bechtel executive level report-out of project assessment, findings, and high-level recommendations. Bechtel promises a final report in 2–3 weeks. SCANA management expresses hesitation, routes

assessment through legal department, indicates concern Bechtel's objective is to seek a long-term engagement on the Project.

Nov 12, 2015: **Bechtel Assessment Report – issued to George Wenick** - Weeks go by with Wenick/Bechtel wrangling over Wenick's rejection of initial report, redactions, timeline removal, critique of project management. Baxley, Pelcher, Lindsay, and Bynum meet with Wenick (in Atlanta) for a review and final disposition of report.

Feb 5, 2016: **Bechtel Project Assessment Report** – Numbered copies of final report released to Santee Cooper by SCANA.

Mar 4, 2016: **Santee Cooper Recommendations** – Five formal recommendations forwarded to Marsh:

1. Construction Milestone Payment Schedule
2. Project Evaluation and Assessment by Owners
3. Quarterly Meetings with Toshiba / WEC / Fluor
4. Evaluation of Fixed Price Option
5. Professional Oversight of EPC Agreement

Mar 7, 2016: **SCANA Meeting (Kevin's conference room) –** Marsh, Byrne, Archie, Lindsay, Bynum, Team Carter – group discusses Bechtel Report and Santee Cooper formal recommendations. Carter praises SCANAs project management team for its operations experience and ability to work well with NRC, but expresses concern over inability to hold Consortium accountable.

Marsh agrees to have the SCANA and Santee Cooper teams study the Bechtel Report, agree on actionable recommendations. Marsh agrees to add EPC resources to his team to fill any gaps/needs identified.

Marsh, Byrne & Archie float Construction Oversight Review Board (CORB) approach as a possible resource solution … same was being used at Vogtle.

CMPS – at Santee Cooper's request, Marsh agrees to hire Bechtel (Jason Moore) on a limited scope basis to assist team in development of the CMPS. Action assigned to Archie. Archie first attempts to hire Jason Moore as an independent contractor. Subsequently, Craig Albert instructs his staff to move on.

Mar 11, 2016: **CEO Meeting (Columbia)** - Marsh, Harold Stowe, Carter, Leighton Lord – meet to discuss Santee Cooper's formal recommendations and expectations of SCANA for the planned Mar 21 Joint Board meeting.

Mar 18, 2016: **Marsh email to Carter (March 18, 2016 at 8:25:34 AM EDT)** … pertinent excerpts provided below:

"Our team is looking forward to meeting with the Santee Board next Monday …"

"We appreciate the effort behind the recommendations provided to us regarding your views on project issues. We have carefully considered your concerns and, as we discussed in our meeting last week, we appear to be in alignment on the first four. We agree in principle with the concern expressed in Item 5 related to additional oversight of the project and have a plan of action that we believe will address the issue appropriately. Our first step in this regard is to staff a Construction Oversight Board.

"Next we would seek an appropriate number of experienced EPC, and/or large construction project personnel to add to the new nuclear team. These individuals would be available to assist the current Project Management Office team and site leadership in assessing and addressing issues arising during construction. I am confident that the number and specific type of personnel needed in this capacity will be informed by the work of our teams who are currently summarizing a list of recommendations for the project going forward. We expect these teams to complete their work and provide a report to senior management by the end of April."

Mar 21, 2016: **Joint Board Meeting 1 (Columbia Hilton)** – discussed Bechtel Report, Santee Cooper March 3 formal recommendations and SCANAs plan forward to address issues.
Marsh committed that SCANA and Santee Cooper would work to identify actionable Bechtel recommendations, SCANA would add EPC experts to its team, and that SCANA would charter a V.C. Summer Construction Oversight Review Board to help SCANA with project execution.

Apr 7, 2016: **SCANA feedback on Bechtel Assessment** – Cherry and Crosby meet with Archie and Bynum. In response to Marsh's request for the teams to work on the Bechtel assessment recommendations, Bynum gave Santee Cooper a spreadsheet containing SCANA feedback from several members of the NND project management team. Brad Stokes (SCANA Manager of Engineering) had not been a part of the Bechtel assessment review effort, even though many issues tied to engineering were impeding progress on the Project.

Apr 15, 2016: **Santee Cooper feedback on Bechtel Assessment** – Also in response to Marsh's request for the teams to work together on the Bechtel assessment, Santee Cooper forwarded Archie and Bynum Santee Cooper's formal review of the Bechtel assessment which included a cross-reference to SCANAs feedback. Santee Cooper's feedback was consistent with its Mar 3rd recommendations calling for the addition of EPC expert resources to assist SCANA project management with executing Bechtel recommendations on engineering, procurement, project controls & scheduling.
Archie called Crosby and Byrne emailed Crosby a few days later and confirmed that they had received and reviewed Santee Cooper's feedback … and that the teams were in agreement.

May 19, 2016: **SCANA meeting – CMPS & Bechtel Assessment** – Marsh, Byrne, Archie, Carter, Crosby, Cherry meet.

**CMPS:** WECs front-end loaded CMPS discussed in detail. Santee Cooper again requested SCANA seek outside expertise to assist Owners with this issue.

**Bechtel Assessment:** Due to the progress WEC & Fluor appear to be making on procurement issues – Santee Cooper agreed to narrow the focus of the Bechtel recommendations to only engineering issues.

Jun 17, 2016: **Santee Cooper Board Meeting (Wampee)** – Fixed Price Option formally introduced to the Santee Cooper Board. .

Jun 18, 2016: **Crosby email to Archie (June 18, 2016 10:50 AM EDT)** – Marsh, Carter and Byrne were copied … pertinent excerpts provided.

"Yesterday, Marion brought me the attached document that you gave him Thursday on the Project Assessment Report…. SCANAs recommendation, and apparent next step, is to perform (another) 3rd party assessment on how to make things better…..I am not supportive of just another 3rd party assessment. The assessment completed Q3 2015, at a cost of $1M, was sufficient for Santee Cooper to recognize the need to on-board experts help to work on key issues and improve the management of the Project." No response was received.

Jun 20, 2016: **Joint Board Meeting 2 (Nexsen Pruet)**

**Fixed Price Option:** SCANA presents its analysis of the Fixed Price Option.

**CORB:** Peggy Pinnell (Santee Cooper Director) reminds Archie of his commitment in the Mar 21 joint meeting to get the CORB established as soon as possible. Archie recommits to getting the CORB established by Jul 20.

Aug 2016: **CORB Review #1** – The Construction Oversight Review Board held its first review in Jul & Aug. The initial review provided for a high-level review of the project schedule, construction, construction to startup turnover planning, engineering, startup, project management, procurement, document control, vendor supplied equipment, and component testing. An executive level exit meeting was held on Aug 18 – primary takeaways follow:

- Schedule has too many activities (238K vs 60K at Watts Bar 2)
- Subcontracts are not in schedule
- Engineering is impeding construction
- Engineering not in schedule – being handled by lists
- Project Management – must get aggressive to hold EPC accountable. Team will not make it without some help

CORB Chairman (Skaggs) promised final report in 2 weeks.

Sep 16, 2016: **Draft CORB Report #1** – received from SCANA after Carter discussed with Marsh that the report was past due. Report was in-house SCANA and being reviewed by Archie. Bynum forwarded a copy to Baxley and reminded Santee Cooper the report was confidential.

Oct 13, 2016: **SCANA action on CORB Report #1** – Williams requests an update from Archie on Oct 5. Jones forwards a report on Oct 13. The information received was primarily a report on what WEC & Fluor are doing to address CORB recommendations on schedule, engineering, project metrics, etc.

**Conclusion:** SCANAs project management team has many areas of strength (nuclear safety culture, operations, NRC management) but does not have the comprehensive skills and depth of experience necessary in engineering, scheduling, project controls and construction to manage a large new build project laced with complexities. Those complexities being (1) a first of a kind nuclear technology (2) being deployed by an over-extended equipment manufacturer (Westinghouse), (3) backed by an incompetent engineering firm responsible for project integration (Stone & Webster now WECTEC), and (4) a Contractor that has been disingenuous on multiple issues. The Project would be greatly benefitted by infusing the current project management team with a framework of qualified EPC managers charged with working collaboratively with the Owner and Consortium to identify areas for improvement, suggest proven solutions, and to provide an independent perspective on actual progress – the effort aimed at increasing the accountability of the Consortium and the success of the Project. After three years of project delays, and now another five months of Unit 2 delay realized in 2016 – there should be no shame in reaching out for qualified assistance.

# Nuclear Timeline—Project Bankruptcy Counsel

Beginning with the precipitous decline of Toshiba's credit rating and financial strength, the Santee Cooper Board and management team have been requesting that SCANA retain bankruptcy counsel for the project. The following timeline is illustrative:

**Timeline: Bankruptcy Counsel**

April 2015: Toshiba announces accounting scandal.

July 21, 2015: Toshiba senior executives and Board of Directors resign.

Dec 22, 2015: Moody's reduces Toshiba long term bond rating to junk status.

Mar 2016: Santee Cooper approaches Nelson Mullins bankruptcy counsel about Project, conflicts check shows WEC is a client of Nelson Mullins in some capacity.

Mar 21, 2016: **Joint Board Meeting 1 (Columbia Hilton)** – Boards discussed declining financial condition of Toshiba and what financial response the Owners should make to poor project progress. Owners' counsel met with George Wenick that afternoon and Santee Cooper requested that bankruptcy counsel be retained for the Project as a proactive measure given Toshiba's and potentially WEC's financial condition.

Apr 4, 2016: **Pelcher email to Bynum (April 4, 2016 4:01 PM EDT)** – pertinent excerpt

"… has SCE&G secured a project bankruptcy attorney to help us think through how Toshiba's financial difficulties might impact Westinghouse and ultimately us? You may recall this is a topic we discussed during our Mar 21 (post board meeting) nuclear attorneys meeting …"

Jun 7, 2016: **Crosby email to Byrne (June 07, 2016 6:03 PM EDT)** – pertinent excerpts

" … Lonnie asked me to forward you and Kevin a proposed agenda for the joint meeting on the 20th. Here is what I have so far … welcome your comments.

1. Fixed Price Option
    a. SCANA analysis – presentation
    b. PSC Testimony – any comments that can be shared
    c. Draft SCANA letter to Santee Cooper – recommending FPO
    d. Potential Bankruptcy – outside legal opinion & plan to address"

Jun 16, 2016: **Marsh email to Carter (June 16, 2016, at 3:39 PM)** - pertinent excerpts

"Based on our internal discussions, we propose an agenda as follows:

1. Follow-up on issues from our last joint meeting;
2. Consideration of the fixed price option; and
3. Update on the milestone schedule/Dispute Resolution Board (DRB) issue"

"Through a number of emails I have seen other topics that your board may want to discuss. We are prepared to do that, but we believe that such a discussion should occur when we have more time. Issues, such as the potential bankruptcy of Toshiba or Westinghouse are critical, but would prefer to have some detailed discussions and debate within our project teams before making a formal presentation to either of our boards."

Jun 16, 2016: **Carter email to Marsh (Jun 16, 2016, 7:20 PM)** – pertinent excerpts

"… Finally, I agree with you that further staff level discussion on the ramifications of a Toshiba or Westinghouse bankruptcy would be useful and should precede any formal presentations to our boards on this matter. With that said, the possibility of such a bankruptcy cannot be entirely divorced from our joint board discussions on Monday. For example, Item No. 2 on your agenda relating to the fixed price option obviously shifts risk away from the Owners and to Toshiba/Westinghouse, making their credit worthiness all the more important. Similarly, with respect to Item No. 3, getting the milestone payment schedule right will make it less likely that Westinghouse view as desirable a strategic Chapter 11 bankruptcy to rid itself of uneconomical executory contract."

Jun 17, 2016: **Carter email to Marsh (June 17, 2016 5:12 PM)** – pertinent excerpts

"At today's Santee Cooper Board meeting several questions regarding the implications of a Toshiba bankruptcy came up. Some we could address others not. I would anticipate similar questions Monday….."

Jun 23, 2016: **Pelcher email to Bynum (June 23, 2016, at 5:12 PM)** – pertinent excerpts

" … Al. one of my notes from Monday's Joint SCANA/Santee Cooper Board Meeting in Columbia was an interest by members of the respective boards in retaining project bankruptcy counsel to provide strategic advice on the challenges associated with Toshiba's financial difficulties arising out of last year's accounting scandal and the risk that posed to the Owners and the project.

"As I understood the discussion from Monday, our joint boards had an interest in retaining as project counsel someone who would be able to represent us both now and in the event of a bankruptcy without having to get a waiver from Westinghouse or Toshiba. My notes indicate that you tasked George Wenick to identify potential project bankruptcy counsel for this purpose."

"One more thing - - and just speaking for myself - - in the penultimate paragraph of his June 16, 2016, at 3:39 PM Email, below, Kevin Marsh advanced the idea of

possibly making a "formal presentation" to our boards on the bankruptcy/insolvency issue after some further analysis/discussion among staffs of SCE&G and Santee Cooper. Given the demonstrated interest in this issue by our board, I think this is a very good idea."

"I would think that the content of such a board presentation would be informed not only by the analysis of the project bankruptcy attorney we eventually (hopefully very soon) retain, but also by a more granular understanding of Toshiba's and Westinghouse's financial situation. Although as a Japanese company the particulars of Toshiba's financial situation might be a bit opaque to us over here, I would think that there would be resources availability to allow us to develop a better picture of its situation and prospects."

Jun 24, 2016: **Bynum email to Pelcher ( June 24, 2016 1:53 PM)** – pertinent excerpt

"Ron and I talked to George yesterday about adding bankruptcy support. He is looking for candidates. We are likely comfortable with whoever he suggests"

Jun 30, 2016: **Pelcher email to Bynum (June 30, 2016 11:41 AM)** – pertinent excerpt

Al: Following Up on our Email Exchange of late last week on bankruptcy counsel, and anticipating that this issue might be raised by one of our board members in connection with today's meeting, has any progress been made in securing project bankruptcy counsel? As you may remember, the issue of WEC/Toshiba bankruptcy/insolvency was on the mind of several of our board members during the June 20th Joint Meeting."

Jun 30, 2016: **Bynum email to Pelcher (June 30, 2016 2:59 PM)** – pertinent excerpt

"George will have to answer your bankruptcy question – we delegated that to him"

Aug 19, 2016: **Pelcher email to Bynum (August 19, 2016 8:43 AM)** – pertinent excerpt

"Al: As you may know, the Santee Cooper meeting on Monday, August 22nd. There will be the now normal update on V.C. Summer Units 2 and 3 in Executive Session. I will be on hand to answer questions of a legal variety that may arrive. "

"QUESTION: If asked by a board member in Executive Session about the status of securing project bankruptcy counsel, what should I tell them?"

Sep 28, 2016: **Pelcher email to Wenick / Bynum (September 28, 2016 2:20 PM)** – pertinent excerpts

"George/Al: I was on the Executive Floor today and a question came up about whether George has made any progress in identifying a project bankruptcy counsel? You may recall, that this is a matter that our joint boards discussed during their June 20th meeting. I have pasted below for your convenience prior Email on this matter."

"The next Santee Cooper Board meeting is scheduled for October 14th and I anticipate this issue coming up at that time."

Oct 24, 2016 **Carter and Baxley travel to New York and** meet with Dentons, LLC attorneys regarding project bankruptcy counsel.

Oct 25, 2016 **Carter letter to Marsh:**

During the June 20 joint meeting, members of both our Boards expressed concern about the financial difficulties being faced by Toshiba Corporation and Westinghouse Electric Company and how those problems could possibly impact the timely and successful completion of the project. One action item that SCANA agreed to take on was securing Project Bankruptcy Counsel who would help us think through Toshiba/Westinghouse insolvency scenarios so that we might begin planning now on how mitigate the impact of such an unfortunate possibility. Indeed, in a June 16, 2016 email to me, you expressed the very same concerns describing "the potential bankruptcy of Toshiba or Westinghouse [as] critical" but expressing the "prefer[ence] to have some detailed discussions and debate within our project teams before making a formal presentation to either of our Boards." The time for that formal presentation to the Board has arrived.

Oct 28, 2016 **Email from Baxley to Marsh and SCANA legal team:**

I'm pleased to report that this week we have located bankruptcy counsel for the nuclear construction project. Stuart Caplan of Dentons New York office has assembled an energy/large construction group with whom we met this week. Stu is well known to Santee Cooper and has represented us in multiple issues over three decades. He is assisted by Farrington Yates who focuses on large scale construction bankruptcies representing creditors. The third member of the team is a large construction project risk avoidance specialist who has litigated the aftermath of multiple mega projects and personally knows at least one of our DRB—John Hinchey—and made several accurate observations about his personality.

No reply received from any recipient.

Confidential/Proprietary/Attorney Work Product

## EPC Securitization Assessment

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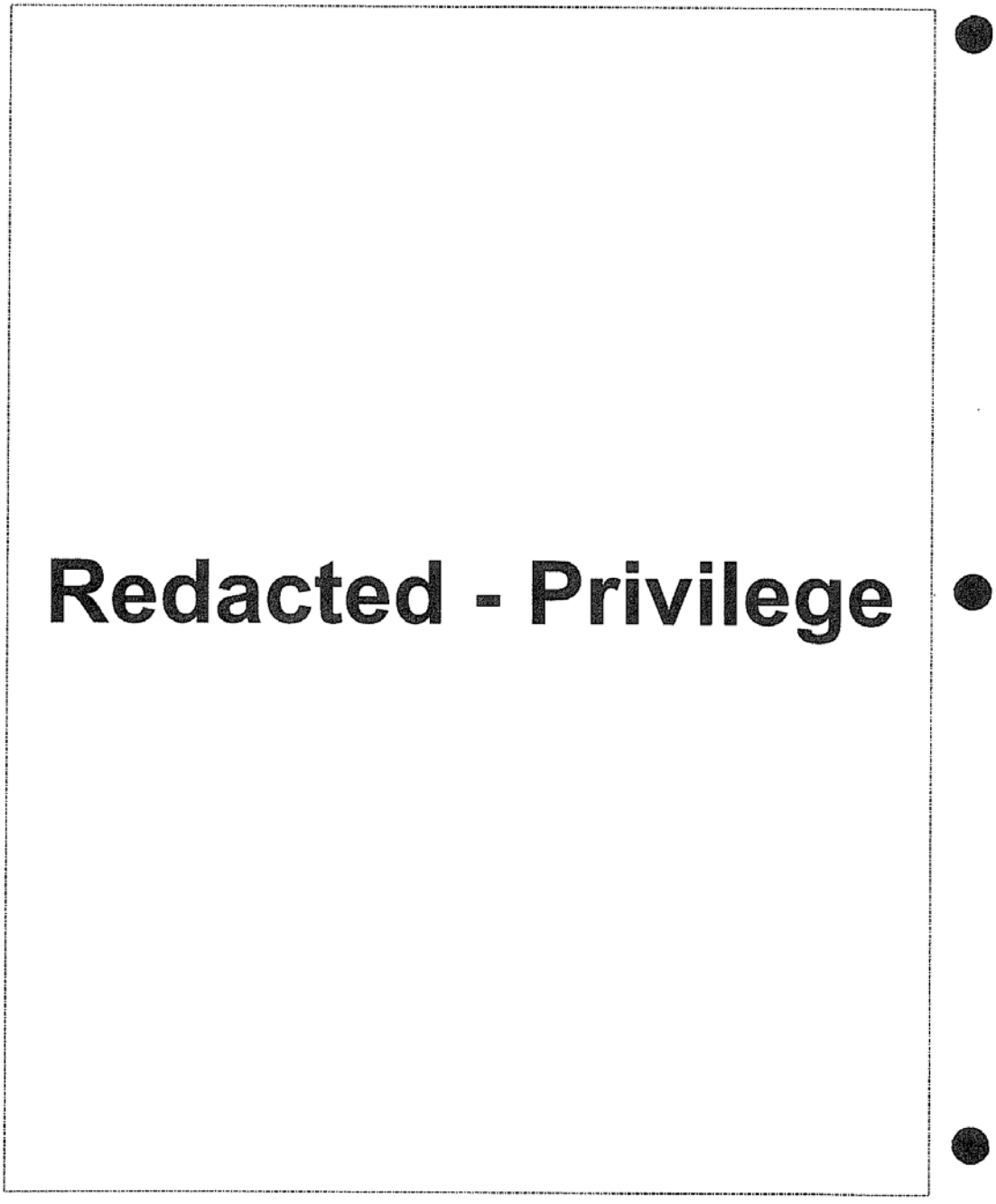

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Respectfully Submitted,

Nuclear Project Securitization Team

J. Michael Baxley
Michael R. Crosby
Elizabeth H. Warner
Stephen R. Pelcher
Rahul Dembla

November 28, 2016

**Rebaselined Schedule / EAC – Meeting #1**
**Oct 13, 2014, 10AM**
**SCANA HQ**

**SCANA: Kevin Marsh, Steve Byrne, Jeff Archie**
**Santee Cooper: Michael Crosby**
**Westinghouse: Danny Roderick, Mark Marano, Chris Levesque**
**CB&I: Phil Asherman, Pat Mullins, Jeff Lyash, Luke Scorsone**

**Kevin's opening remarks:**

- **Appreciate everyone taking the time to meet today**
- **This is the most important project going on for both of our companies**
- **We knew this was a long term project when we started … and that there would be issues and disagreements that would arise along the way**
- **Our goal has always been to resolve those issues in a fair and reasonable fashion … and I think both sides have worked hard to accomplish that to this point**
- **Latest announced delays and related cost increase are our biggest challenge to date**
- **Financial investors are concerned about the continued delays and cost increases … they do not like uncertainty**
    - **We have told them we would be negotiating with the Consortium with the goal of resolving our issues**
- **We know the Consortium is concerned with our withholding of payments … our position on that is based on our belief that the payment schedule is an integral part of the construction contract along with the construction milestones and agreed upon delivery dates … since the Consortium is not meeting those dates we are not obligated to make payments until an appropriate amount of progress has been achieved**
- **Payments related to delays in fabrication and delivery of submodules will continue to be withheld in accordance with the Consortium's agreement in the last change order to absorb any additional costs associated with the submodule delays**

- **We are willing to discuss resumption of the Progress Payments as a part of any agreement we reach in these negotiations**
- **We want to focus our negotiations on the following substantial completion dates**
  - **Unit 2 – December 2018**
  - **Unit 3 – December 2019**
- **We want to continue to focus the site-work schedule for the completion of the first new unit on Sep 2018**
- **We believe that our contract provides for adjustments to the escalation rates for costs that fall in the firm with fixed escalation category … and there is little doubt that the applicable market rates continue to be well below the stated amount in the contract and would support an adjustment downward**
- **We want to complete our negotiations by Dec 1, 2014 … and we will give our full attention to achieving that goal**
- **We are going to be required to make a filing with our Public Service Commission due to the fact that we will exceed the 18 month grace period on a number of our approved milestones**
- **We plan to make that filing … at or near the end of the year … and need to know if we have reached a successful agreement on the revised schedule and related cost that we can present to the Commission … or if we have to go the route of litigation to protect our customers … either way we need to make a filing.**
- **Going beyond SCE&Gs 55% share … or $6.3B … will not be acceptable to the Commission … and in order to get a vote of approval on the schedule delay and any increased cost … the combined impact of the construction cost, escalation and Owners Costs cannot exceed $6.0B.**
- **At the last meeting we asked the Consortium to think about what they could do to indicate to us its confidence in the new schedule … and how the Consortium might be able to put more skin in the game.**
- **We would propose … in return for accepting a new construction schedule along with an agreed amount of additional cost … the Consortium would be at risk for additional Liquidated Damages of**

**$250M for not achieving the substantial completion dates of Dec 2018 and Dec 2019 (that is, total LDs for both Units would cap at $405.5M)**

- **Likewise if the Consortium met those completion dates … we would pay an incentive award of $250M (total reward for both Units).**
- **In closing …we've always tried to avoid litigation in our negotiations thus far … and believe that it would certainly be beneficial to both of us if we could do that again.**

**<u>Primary questions from the Consortium:</u>**

- **Phil Asherman was initially focused on the re-start of Progress Payments and wanted to make sure that CB&I got "caught-up" as a function of restart. It was apparent that Phil did not completely understand the reason we stopped payments in August 2014**
  - **Kevin assured Phil that re-start and re-scheduling of Progress Payments was on the table for this negotiation.**

- **Phil Asherman asked … "if a deal cannot be achieved - is litigation the (only) next option?"**
  - **Kevin stated that if the Consortium could not agree to a path forward (somewhere) within the proposed parameters (outlined above) … the Owners would have no choice and would litigate to protect their customers.**

- **Danny Roderick was focused on understanding the required make-up of the proposed … not to exceed $6.0B (55%) project cap.**
  - **Kevin explained the $6.0B would have to be SCE&Gs all-in project cost … which included escalation, Owners costs, AFUDC, transmission, etc.**
    - **Danny asked for more help to understand this target.**
    - **Kevin agreed to have staff provide this detail.**

- **Jeff Lyash questioned the bonus pay-out for an on-time finish. Jeff said the Unit 2 date (Dec 2018) contained a lot of risk … but was less concerned about the Unit 3 date (Dec 2019.)**
    - **Kevin stated the bonus pay-out could be negotiated … but would have to be structured to incentivize the on-time completion of Unit 3 (Dec 2019.)**

**Observations**

- **Meeting was high-level and very cordial.**
- **Roderick / Asherman seemed very willing to study Kevin's proposed deal parameters.**
    - **However … in our post meeting (Owners only) we do not believe Roderick or Asherman fully understood just how challenging the $6.0B cap will be considering the $1.2B EAC.**
- **Roderick continued to use the term "regulatory change" at every opportunity during the meeting.**
- **Steve Byrne and Jeff Archie … noted that Luke Scorsone seemed extremely subdued.**
- **Per my notes … only one rock was thrown:**
    - **Pat Mullins stated that CB&I was quite capable of completing this project on a defined schedule … but needed a complete design.**

**Next Meeting**

- **Nov 6, 2014 … at SCANA HQ.**

**Lonnie,**

**I included the following chart in the email I forwarded you last Friday.**

| | PSC Filing March 2009 (000s) | PSC Filing June 2014 (000s) |
|---|---|---|
| Gross Construction | $ 6,313,376 | $ 5,606,679 |
| AFUDC | $ (264,289) | $ (265,589) |
| Transmission Projects | $ (638,020) | $ (362,918) |
| 55% | $ 5,411,067 | $ 4,978,172 |
| 100% | $ 9,838,304 | $ 9,051,222 |

| | 100% (000s) |
|---|---|
| March 2009 PSC Filing | $ 9,838,304 |
| June 2014 PSC Filing | $ (9,051,222) |
| | $ 787,082 |
| Est. OC Increase | $ (400,000) |
| Available for Negotiation | $ 387,082 |

*** All numbers include escalation

**Marion and I … were trying to calculate how much money … might be on the table for negotiation … with a $6.3B (55%) project cap … we came up with $387M.**

**After talking with Kevin and Steve today … they were both scratching their heads trying to remember why they reported such a high Transmission number ($638,020) back in 2009.**

**Kevin is following up with Keller on this matter … but regardless … SCE&Gs transmission spend is going to be a lot less … which affects the calculation above.**

**Kevin has Carlette working up the $6.0B project cap numbers … but the following chart is another attempt at the calculation while we wait on Carlette.**

**In today's pre-meeting … Kevin agreed NOT to put the full $6.3B on the table as you've already read in the meeting notes … he gave the Consortium a target of $6.0B.**

| | PSC Filing March 2009 (000s) | PSC Filing June 2014 (000s) |
|---|---|---|
| Gross Construction | $ 6,313,376 | $ 5,606,679 |
| SCE&G Pad … On-Time Bonus, ETC | $ (313,376) | |
| AFUDC | $ (264,289) | $ (265,589) |
| Transmission Projects | $ (362,918) | $ (362,918) |
| 55% | $ 5,372,793 | $ 4,978,172 |
| 100% | $ 9,768,715 | $ 9,051,222 |

| | 100% (000s) |
|---|---|
| March 2009 PSC Filing | $ 9,768,715 |
| June 2014 PSC Filing | $ (9,051,222) |
| | $ 717,493 |
| Owners Cost Increae Est. | $ (400,000) |
| Available for Negotiation | $ 317,493 |

*** All numbers include escalation

**Hopefully … the above numbers are closer to correct … we will see.**

**Lastly, in terms of entitlement … as you recall from Friday's email … Carlette came up with a preliminary $422 … Marion and I came up with a preliminary $224. I shared this difference with Kevin and Steve today … they understood and are good with continuing these discussions.**

**Kevin,**

**Yesterday afternoon, Marion and I went the through numbers one more.**

**Admittedly … we do not have good insight on SCE&Gs transmission projects and AFUDC … but using the current number for transmission costs (Q2 2014) and increasing Owners Cost by $400M (100%) … we believe the calculation will leave ~$317M (100%) available for negotiation with the Consortium … while preserving the $313M for SCE&G (at 55%) for anything else that may arise including potential payout of SCE&Gs share of an on-time finish bonus.**

**It will be interesting to see Carlette's analysis.**

| | PSC Filing March 2009 (000s) | PSC Filing June 2014 (000s) |
|---|---|---|
| Gross Construction | $ 6,313,376 | $ 5,606,679 |
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| | $ 717,493 |
| Owners Cost Increae Est. | $ (400,000) |
| Available for Negotiation | $ 317,493 |

*** All numbers include escalation

**Following is a quick benefits check on the deal discussed yesterday.**

**Benefit to Consortium**

- **$155.5M … avoided LDs (new lease on life with new GSCDs)**
- **$300.0M … increase to EPC agreement via negotiation**
- **$250.0M … potential bonus for on-time finish**
- **$705.5M … total potential benefit for being 2 years late**

**Benefit to Owners**

- **Increased certainty on project schedule**
- **405.5M … max LDs with new cap**

**Lonnie has not taken a vote yet … but I believe the equation could use some balance … and agree with you – should the Consortium balk at Dec 2018 … any movement to the right gives us a golden opportunity to increase the LD cap.**

**Finally, following are bullet notes taken at yesterday's meeting.**

**If I've missed anything … or mis-represented anything … please let me know.**

**I appreciate you and Steve allowing me to join the meeting … I think the first meeting went well.**

**Michael**

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**Rebaselined Schedule / EAC – Meeting #1**
**Oct 13, 2014, 10AM**
**SCANA HQ**

**SCANA: Kevin Marsh, Steve Byrne, Jeff Archie**
**Santee Cooper: Michael Crosby**
**Westinghouse: Danny Roderick, Mark Marano, Chris Levesque**
**CB&I: Phil Asherman, Pat Mullins, Jeff Lyash, Luke Scorsone**

**SCANA 3rd Quarter 2014 Earnings Conference Call/Webcast**

**Thursday, October 30, 2014 1:00 PM Eastern**

**Officers:**
Susan Wright, Director of Financial Planning and Investor Relations
Jimmy Addison, EVP & CFO, SCANA
Steve Byrne, COO - SCE&G

**Analysts:**
Jim von Riesemann, CRT Capital Group
Ashar Kahn, Visium Asset Management
Michael Weinstein, UBS
Travis Miller, Morningstar
Andrew Weisel, Macquarie Capital Securities
Dan Jenkins, State of Wisconsin Investment Board
Stephen Byrd, Morgan Stanley
Michael Lapides, Goldman Sachs

+++ presentation

**Operator:** Good afternoon, ladies and gentlemen. Thank you for standing by. I will be your conference facilitator today. I apologize for the technical issues and delay experienced earlier.

At this time, I would like to welcome everyone to the SCANA Corporation Conference Call.

All lines have been placed on mute to prevent any background noise. After the speakers' remarks, there will be a question-and-answer period. (Operator Instructions)

As a reminder, this conference call is being recorded on Thursday, October 30, 2014. Anyone who does not consent to the taping may drop off the line.

At this time, I would like to turn the conference over to Susan Wright, Director of Financial Planning and Investor Relations.

**Susan Wright:** Thank you, and welcome to our Earnings Call. As you know, earlier today we announced financial results for the third quarter of 2014.

Joining us on the call today are Jimmy Addison, SCANA's Chief Financial Officer, and Steve Byrne, Chief Operating Officer of SCE&G.

During the call, Jimmy will provide an overview of our financial results and related matters, and Steve will provide an update on our new nuclear project. After our comments, we will respond to your questions.

The slides and the earnings released referenced during this call are available at SCANA.com. Additionally, we post information related to our new nuclear project directly to our website at SCANA.com. On SCANA's home page, there's a yellow box containing a link to the *New Nuclear* section of the website that further contains a link to project news and updates.

In connection with this process, we have discontinued our practice of furnishing on Form 8-K the quarterly reports that SCE&G submits to the Public Service Commission of South Carolina and the South Carolina Office of Regulatory Staff. Instead, the Company now posts copies of these reports on the SCANA website.

Please note that we have recently added an *Other Investment Information* link to the yellow box. The new Other Investment Information section of the website contains a link to recent investor-related information that cannot be found at other areas of the website. It is possible that some of the information that we will be posting from time to time may be deemed material information that has not otherwise become public.

In addition, I want to remind you that you can sign up under the Investor Relations section of SCANA.com for e-mail alerts for financial reports and press releases. You can now also sign up for e-mail alerts when there is a new posting in the *New Nuclear* and/or the *Other Investor Information* yellow box.

Finally, before I turn the call over to Jimmy, I would like to remind you that certain statements that may be made during today's call are considered forth-looking (sic)

statements and are subject to a number of risks and uncertainties, as shown on slide two.

The Company does not recognize an obligation to update any forward-looking statements. Additionally, we may disclose certain non-GAAP measures during this presentation, and the required Reg. G information can be found from the Investor Relations section of our website.

I will now turn the call over to Jimmy.

**Jimmy Addison:** Thanks, Susan, and thank you all for joining us today. I'll begin our earnings discussion on slide three.

Basic earnings in the third quarter of 2014 were $1.01 per share, compared to $0.94 per share in the same quarter of 2013. Please note that the electric weather normalization pilot ended in December 2013, and the Company's financial results are now impacted by abnormal weather in our electric business.

Accordingly, the improved results in the third quarter are attributable to increases in electric margins due to abnormal weather, continued recovery of financing costs through the Base Load Review Act, or BLRA, and customer growth.

We estimate the impact of abnormal weather added $0.07 per share in electric margins for the quarter. These increases were partially offset by expected increases in operations and maintenance expenses and CapEx-related items, including property taxes, depreciation, interest expense, and share dilution.

Please turn to slide four.

Basic earnings per share for the nine months ended September 30, 2014 were $3.06 per share versus $2.67 in 2013. Increases in electric and gas margins were partially offset by higher expenses and dilution related to our capital program. We estimate abnormal weather added $0.23 per share to electric margins on a year-to-date basis.

Now, on slide five, I'd like to briefly review results for our principal lines of business.

South Carolina Electric & Gas Company's third quarter 2014 earnings, denoted in blue, were up $0.11 compared to 2013. This was driven largely by increases in electric margins, which were due primarily to abnormal weather, continued recovery of financing costs through the BLRA, and customer growth. These increases were partially offset by increases in O&M expenses, as well as expenses related to our capital program, including property taxes, interest expense, and share dilution. Year to date, basic earnings were higher by $0.39 due primarily to higher electric and gas margins.

PSNC Energy, shown in red, reported a seasonal loss of $0.02 for the third quarter of 2014 compared to a loss of $0.03 for the same quarter of 2013. For the nine-month period ended September 30, 2014, basic earnings were up $0.02 per share over the same period of 2013.

SCANA Energy, our retail natural gas marketing business in Georgia, in green, reported a seasonal loss for the third quarter of $0.02 per share compared to a loss of $0.03 for the third quarter of 2013. Year-to-date earnings are $0.11 per share, consistent with the prior year.

SCANA's corporate and other businesses reported a loss of $0.06 per share in the third quarter of 2014 compared to flat earnings for the third quarter of the prior year. This is primarily the result of lower margin in the energy marketing business and higher interest expense at the holding company. For the nine-month period, these businesses reported basic earnings of $0.02 in 2014 compared to $0.04 in 2013.

I'd like to touch on economic trends in our service territory on slide six. We continue to see new business growth and expansion of existing businesses. So far, in 2014, companies have announced plans to invest approximately $630 million with expectations of creating over 6,000 jobs in our Carolinas territories.

Obviously, one of the largest economic development activities currently ongoing in the state of South Carolina is the building of the two new nuclear units at VC Summer Station. The construction workforce now numbers over 3,000, along with the addition of over 500 full-time employees hired directly by SCE&G to begin preparation to operate the plants once construction is complete.

To meet the demands for this new nuclear workforce, programs have been created at various colleges and universities, creating further economic expansion.

The majority of contract employees are from the state of South Carolina or from the region, so the project is significantly impacting the local and state economy. Its operation will enable South Carolina to support continued economic growth while producing clean, efficient energy for decades to come.

At the bottom of the slide, you can see the national unemployment rate, along with the rates for three states where SCANA has a presence and the SCE&G electric territory. South Carolina's unemployment rate is now 6.6%, and the rate in SCE&G's electric territory is estimated at 6.1%.

Impacting the state's unemployment rate is the introduction of approximately 17,000 people to the workforce since last quarter. However, the employment outlook still remains positive as over 21,000 South Carolinians have found work, and the state unemployment rate has dropped by 0.7 of a point since September of 2013.

Slide seven presents customer growth and electric rates. On the top of the slide are our customer growth rates for each of our regulated businesses. We continue to see strong customer growth in our businesses and in the region. SCE&G's electric business added customers at an annual rate of 1.3%. Our regulated gas businesses in North and South Carolina added customers at an identical 2.5% rate.

The bottom table outlines our actual and weather-normalized kilowatt hour sales for the 12 months ended September 30, 2014. Overall, weather-normalized total retail sales were up 0.7 of a percent on a 12-months-ended basis, driven mainly by strong industrial demand. We continue to see slightly lower weather-normalized consumption at the residential level, reflecting anticipated deficiencies.

Now, please turn to slide eight, which recaps our regulatory rate base and returns. The pie chart on the left presents the components of our regulated rate base of approximately $8.8 billion. As denoted in the two shades of blue, approximately 86% of this rate base is related to the electric business.

On the block on the right, you will see SCE&G's base electric business, for which we're allowed a 10.25% return on equity. The earned return for the 12 months ended September 30 in the electric business is approximately 10%, meeting our stated goal of earning a return of 9% or higher to prevent the need for non-BLRA-related base rate increases during the peak nuclear construction years. We're very pleased with the execution of our strategy.

Continuing down the page on our new nuclear business, we're allowed an 11% return on equity. The Public Service Commission of South Carolina recently approved our request for revised rates under the BLRA, which added incremental CWIP of approximately $561 million to our rate base, and we will implement a rate increase in November of approximately 2.8%.

Our regulated gas businesses in the Carolinas continue to perform well. We're allowed a return on equity of 10.6% and 10.25% in North and South Carolina, respectively, and we continue to operate these businesses close to those returns.

SCE&G's gas business returns are measured each year through the Rate Stabilization Act. We recently received approval for a small decrease effective with the first billing cycle in November, which equates to a $2.6 million reduction on an annual basis.

Slide nine presents our CapEx forecast. This forecast reflects new nuclear spending, as reported in our latest BLRA quarterly report filed in August and does not include any additional cost or schedule delays estimated by the consortium as we're in the midst of a negotiation process at this time.

At the bottom of the slide, we recapped the new nuclear CWIP from July 1 through June 30 to correspond to the period on which the BLRA increase is calculated.

Now, please turn to slide 10 to review our estimated financing plan through 2018. While these are our best estimates of incremental debt and equity issuances, it's unlikely that these issuances will occur exactly as presented as they are subject to changes in funding needs for planned project expenses.

On May 27th of this year, SCE&G issued $300 million of 50-year bonds at 4.5%. On the equity side, we've issued approximately $75 million from our 401K matching and DRIP plans and continue to target 52% to 54% of equity levels at the operating company, SCE&G.

However, cash flows and the plan construction payments to date, we have pushed $100 million of additional equity issuances from 2014 to 2015 to meet our targeted cap structure, as I suggested was a possibility on our previous call. We currently estimate we will not require any of this deferred equity until the latter half of 2015.

Similarly, we are deferring the planned $300 million debt issuance from Q4 2014 to Q1 2015. Overall, we continue to adjust the financing to match the related CapEx on a 50/50 debt and equity basis.

Obviously, the construction delay had slowed expenditures, but they were also significantly reduced by lower-than-anticipated escalation, as well. The delay is a matter of timing, but the escalation on those components already received or completed will result in permanent savings.

We're very pleased to report that earlier this month we successfully extended our largest credit facility by one year. The facility total was $1.6 billion and covers five years and now will expire in October of 2019. The additional liquidity is important to our nuclear construction, but we also have an additional $200 million for peak construction liquidity at SCE&G, which will expire in October of 2016.

Now, I would like to thank our banks for their support of our liquidity needs and, therefore, our nuclear project.

Now, on slide 11, remaining unchanged is our long-term outlook of 3% to 6% growth over the three- to five-year period. Based on the 2013 weather-normalized base of $3.40 of basic earnings per share, we're adjusting our guidance for 2014 to reflect our results to date through the third quarter. Our previous range of $3.45 to $3.65 is adjusted to $3.70 to $3.90. This reflects the $0.23 of weather experience year to date in the electric business and the expectation of normal weather in Q4.

We continue to estimate that our effective tax rate for 2014 will be approximately 32%.

And I'll now turn the call over to Steve to provide an update on our nuclear project.

**Steve Byrne**: Well, thanks, Jimmy.

Want to begin by discussing the preliminary new nuclear construction schedule and cost information we received from the consortium. As previously discussed, the consortium began a full re-baselining of the VC Summer Unit 2 and Unit 3 construction schedules to incorporate project delays associated with engineering completion, construction lessons learned, and component procurement of fabrication.

In August, we received preliminary information relative to this re-baselining in which the consortium indicated that the substantial completion of Unit 2 is expected to occur in late 2018 or the first half of 2019 and that the substantial completion of Unit 3 would be approximately 12 months later.

As indicated on our website in the New Nuclear Deployment, or NND, yellow box update, the consortium has provided preliminary EPC cost estimates principally related to these delays to achieve the late 2018 substantial completion date for Unit 2.

SCE&G's 55% portion of this preliminary estimate is approximately $660 million, which is in 2007 dollars and would be subject to escalation. It also excludes any owners' cost amounts associated with the delays.

The $200 million that we referred to on previous disclosures starting at our June 2013 annual analysts' meeting regarding potential cost increases associated with prior schedule delays included escalation in owners' cost. So excluding the amounts attributable to those items, the balance of the $200 million is included in the $660 million and would not be an addition to it.

The EPC costs fall roughly into three buckets -- fixed, firm, or target costs. The target costs are impacted by changes in the construction schedule as a major component of this bucket is labor. Other non-EPC cost components impacted by the delays in the construction schedule and not

included in the $660 million estimate are owners' costs and escalation costs.

It is too early to determine owners' costs as we are in the midst of a negotiation process with the consortium. While the preliminary schedule and cost estimates are under review by SCE&G and Santee Cooper and it is anticipated that further study, evaluation, and negotiations will occur, we cannot predict when the revised schedule and cost estimates will be finalized.

The preliminary cost estimates and preliminary substantial completion dates do not reflect consideration of the liquidated damages provision of the EPC contract, which would partly mitigate any such delays. They also do not reflect all the possible efforts to mitigate the delay on the schedule.

Further, neither SCE&G nor Santee Cooper has accepted the new preliminary schedule or finance responsibility associated with these delays. Once a final revised schedule and cost estimate has been negotiated, we will be able to quantify owners' costs and escalation based upon the revised in-service dates.

Filing for a new order under the Base Load Review Act will be required if the scheduled in-service dates exceed the current 18-month contingency, which would be September of 2018 for Unit 2 and/or there's a change on the project costs.

Once we have negotiated a finalized revised schedule and cost estimate, SCE&G is required to file a petition requesting a new order for the Public Service Commission of South Carolina. Should SCE&G file a petition, the Public Service Commission would have six months to issue its order.

SCE&G provided its annual update on the progress of new nuclear units to the Public Service Commission at its allowable ex parte briefing held on October 15.

I also want to mention that last week, the South Carolina Supreme Court issued an opinion unanimously affirming a November 2012 decision of the Public Service Commission, which authorized SCE&G to modify its construction schedule

and include $273 million of costs [win] its capital cost under the Base Load Review Act.

I'd now like to discuss some of the activities at the new nuclear construction site. Please turn to slide 12.

On this slide, you can see an aerial photo of the new nuclear construction site from about 18 months ago just prior to the first nuclear concrete pour for Unit 2. I've circled Unit 2, Unit 3, cooling tower 2 alpha, and the containment vessel fabrication area. These are areas where you can see significant progress by going to slide 13.

Slide 13 is an aerial photo from May of this year. You've seen this photo a few times now, but in comparison to where things stood about 18 months ago, you can really see how the project is progressing. Clearly, cooling towers 2 alpha and 3 alpha are structurally complete with work progressing on the other two. You also see the lower ball and structural module CA20 in place in the Unit 2 nuclear island, along with significantly more work in the containment vessel assembly area.

On slide 14, you can see a picture of Unit 2 nuclear island. In this picture, you can see CA20, along with the containment vessel ring one, which has been placed on the containment vessel lower bowl. The lower bowl is now covered by the auxiliary building walls, and they are coming up to elevation 100. Elevation 100 must be achieved in order to begin work on the Annex Building, which will house the electrical switch gear for the plant.

On slide 15, you can see a picture of the Unit 2 containment vessel ring number two. This ring is complete and will be set after placement of structural modules CA01 and CA05.

Slide 16 shows a schematic of the modules inside the containment vessel. Now, here, you can see the locations of the previously mentioned modules CA01 and CA05, which we will further discuss shortly.

Slide 17 shows a recent picture of Unit 2 Module CA01. Module CA01 houses the steam generators, the pressurizer, and forms a refueling canal inside the containment vessel. Currently, we have 46 or 47 sub-modules on site, and 18 of

those sub-modules are upright and being assembled in the module assembly building, or MAB.

Slides 18 and 19 show pictures of the Unit 2 Module CA05. This module comprises one of the major wall sections within the containment vessel.

On slide 18, you can see module CA05 being moved outside of the MAB to a tent for the addition of the final wall panel sub modules.

Slide 19 shows module CA05 inside the tent where the final sub modules have been placed and final welds were completed. This module is ready for hook, and we anticipate placing it in the Unit 2 containment vessel by the end of the year.

Slide 20 shows a picture of the Unit 3 nuclear island. Here you can see where the containment vessel lower bowl has been placed and the auxiliary building walls are beginning to take shape.

Turning to slide 21, you can see a picture of the Unit 2 turbine building. All the modules have been completed and placed on the turbine building base mat, and progress is made on the structural steel for the surrounding turbine building itself. The turbine building is now getting prepared for placement of the turbine rotors and generator, which will go on top of these structural steel modules.

Slide 22 shows a picture of the turbine building module CH80 and CH82 for Unit 3 as they are being assembled outside of the turbine building excavation.

Slide 23 may look familiar as you probably remember pictures we have previously shown of the massive Unit 2 deaerator component being transported to the site. However, this is a new picture of the Unit 3 deaerator as it crosses Interstate 95. This component is now on site.

Slide 24 shows a Unit 2 shield building panel. We have now received 26 of the 167 panels that will be provided by Newport News Industries for the project. These panels will be welded together, and concrete will be poured inside of the panels to create a shield building.

Slide 25 shows three Unit 2 main transformers and a spare. This component is sometimes referred to as generator step-up transformer, or GSU.

I also want to take a moment to mention Westinghouse's recent acquisition of Mangiarotti in Italy. As you may recall, Mangiarotti manufactures various tanks and heat exchangers that make up parts of the passive cooling design for the AP1000. We believe this acquisition is positive for our project as it gives the Mangiarotti facility the financial support they need to continue to provide high-quality nuclear components.

On slide 26, you will see the new nuclear CapEx, actual and projected, over the life of construction. This chart shows a CWIP during the years 2008 to 2018, as reflected in the August 2014 BLRA quarterly report and does not reflect any of the consortium's estimated additional costs or schedule delays. As you can see, the next several years are the peaking nuclear construction period. The green line represents related actual and projected customer rate increases under the BLRA and is associated with the right-hand axis.

As we stated before, the incremental 5% future acquisition of the new nuclear project from Santee Cooper will not affect these projected BLRA increases.

Please now turn to slide 27. As we mentioned in our second quarter call, we filed our annual request for revised rates under the BLRA in May. In response to their request in September, the Public Service Commission approved an increase of $66.2 million. The new rates are effective for bills rendered on or after October 30th.

Our BLRA filings for 2014 are shown at the bottom of the slide. As you can see, in August, we filed our quarterly status report on our new nuclear project with the Commission and the Office of Regulatory Staff for the second quarter of 2014. We intend to file a quarterly status report for the third quarter 2014 in November.

On slide 28, you'll see a breakout of the total and new nuclear project costs. On the far right, you can see the project costs as filed in August 2014 BLRA report.

Project costs are currently under-running the original approval received from Public Service Commission. As you can see, this change is largely attributable to lower escalation. This, of course, does not include consideration for the negotiations ongoing relative to the new schedule and cost information.

That concludes our prepared remarks. We will now be glad to respond to any questions you might have.

**+++ q-and-a**

**Operator**: Thank you. We will now begin the question-and-answer session. (Operator Instructions)

**Jim von Riesemann, CRT Capital.**

Jim von Riesemann: I have one question in three parts, so I won't violate the two-or-more question rule. The first question centers on is there any -- I may have missed this, but is there any update with expectations as to when the timing of this negotiation with the construction consortium may end? Do you guys have any idea?

Steve Byrne: Jim, this is Steve. What we said a few minutes ago was that we can't predict when those negotiations will be concluded, so we started the negotiation process, it's been fruitful to date, and we can't yet determine when they will conclude.

Jim von Riesemann: Do you think this is going to be a 2014 event or a 2015 event, in your best guess?

Steve Byrne: My best guess is it could be either.

Jim von Riesemann: Okay. Turning -- I think this will be a question now for Jimmy. I was a little confused on the earnings release, and I just need some refresher on the marketing businesses. You had a -- what's at Georgia retail and what's at the corporation?

Jimmy Addison: Yes, so we've got two different divisions of the same legal entities, SCANA Energy. We've got SCANA Energy Marketing, which is the kind of industrial marketing arm that markets to industrial customers across all three states of our footprint. Some of their capability is for marketing unused capacity of the Georgia retail marketing

business. The other division of that company is the Georgia retail marketing business.

Jim von Riesemann: Right. So what drove that loss in the third quarter or that higher loss from this?

Jimmy Addison: Yes, so, Jim, it was an intentional kind of strategic move they had a real good year early in the year, the industrial marketing company.

On the retail marketing side, the other division, we've had some gas inventories that were higher than current gas market prices for a while, not higher than our sales price but higher than the current gas market price. So we took that opportunity to move some of that storage gas out and direct it from a cost standpoint to some of the industrial sales.

Obviously, not charging those industrial customers at higher cost but absorbing those losses now, refilling that storage with current market prices to get us in a better position headed into the winter heating season in the retail side.

Jim von Riesemann: I totally understand what's going on there. And the last one I'm also confused on. Can you walk me through your revised earning guidance, but more specifically, it's not so much the $3.70 to $3.90. If I back out the weather and if I assume the midpoint, that means you're at $3.57, and that would be $0.02 above your internal target, your previous internal target. So I back out all the weather. How should we think about earnings growth going forward? Are we going to redefine the base to say 2014 as the year concludes, or do you think we're going to still keep it with this 2013 base?

Jimmy Addison: Well, our intention each year is to move to a weather normal new year. So last year, it was off of 2013, weather normal, in our plan when we released guidance. For 2015, in February, we made a move to a 2014 weather normal.

Jim von Riesemann: Okay, so if you go three to six, that gets off at 14 and would imply 362 on the low end, maybe up to 383.90. So we're going to actually look on a weather-normalized basis probably at still some good year-over-year comps, is that correct?

Jimmy Addison: I mean I think you had it pretty accurate before when you said if you take the weather off the midpoint of the 370 to 390.

Jim von Riesemann: Okay, no, I understand. Thank you.

Jimmy Addison: Sure.

**Ashar Khan, Visium.**

Ashar Khan: I just want to get a little bit -- I don't know if you can help me out. Southern and you guys started at the same time, and they -- and if I'm right, when you guys started, some people thought that you might be the first one to complete. They on their call yesterday said that they're still hoping and expect to be done on their original timeline, which is end of 2017, and that their cost estimates have not changed as they have reported.

And the same -- and I'm just trying to understand it's the same project, same technology, same kind of things. I guess the contract is different. But why is there such a huge delta between one party and the other? I'm sure you have also done some analysis. You have to have done some analysis. Where we are getting off by nearly 18 months, 24 months, they're still on timeline, and our costs on the total project, ours is only 55%; it's like $1 billion higher.

I just want to understand, Jimmy, what is so different that we are having two different results for a project of a similar scope/type in the same region being built by the same kind of subcontractors and things?

Steve Byrne: Ashar, this is Steve. Let me try to tackle the question. You said that we started about the same time. We certainly applied for our licenses at the same time, and we're within a couple months of receiving the licenses, with Southern getting theirs first.

Southern got an early site permit, so some of the onsite construction on the Southern Company project did start before ours did. We did not see the need to apply for the early site permit so we went straight to the combined operating license route, which we both ended up getting. So they did some preliminary work that we did not do.

So there are some minor differences onsite, one, because of the early start that they got, and two, because the sites are slightly different, a hard rock site versus a soft soil site.

That being said, they are -- the projects are the same project doing the same things with the same vendors and the same constructor. I can't speak to what they would say relative to their schedule or cost. We know that from the original cost projections, Southern Company was higher than us by some 40% on their contract. Though I haven't seen their contract, my understanding is it is different than ours inasmuch as it may be more fixed than ours is.

So what Southern says is what they said, and you can glean that from their earnings calls. We're dealing with the same consortium that they're dealing with, and we've gotten information on cost and schedule that we've updated you on, so that's about as much as we can say on the Southern project.

Ashar Khan: Okay. And then, Jimmy, I guess, what has been, I guess, troubling to the stock and I guess the sell side is not getting recovery or I guess that's what the stock kind of envisions is that we will have some hard time getting recovery from this overspend.

So if I'm correct, what you said is that in -- by the time this agreement is done and over with, I guess, the best timeframe we have is end of the year. You will then file immediately with the Commission the new cost estimates and timelines, and then the Commission would have six months from that date. So if you get that January 1, you file January 1, say, so you will know by June 30 what they have allowed you that increase.

And I guess the cost of the rule is that the Supreme Court in their decision earlier basically verified an earlier Commission decision to be allowed to recover that. So it seems like they can go ahead and do that, and if they do that, that should not be then appealed to the courts because I guess we have another precedence where the Supreme Court has reaffirmed the Commission's decision. Am I thinking through this correctly?

Jimmy Addison: Yes Ashar. I think your example of the timeframe there is technically accurate. I think a couple times before when we've been in for revisions in the cost and schedule, I think, going from memory, they've actually ruled sooner than their six months, fairly quickly, so they're not necessarily taking that entire six months. They do usually take the six months on a regular base rate case just so that they have the maximum statutory allowance before the new rates go in.

But I think what you said there is accurate. I don't see any real issues with that. The Supreme Court did rule in favor of us on the intervener's appeal. It was a 5-0 decision by the court, and I think everything else you summarized there is pretty accurate.

Ashar Khan: Okay, okay. Thank you so much.

Jimmy Addison: You're welcome.

**Michael Weinstein, UBS.**

Michael Weinstein: About the owners' costs that you haven't provided an estimate for, most of that is labor? Am I correct in understanding that?

Steve Byrne: Yes, I'd say the majority of it is probably labor, and that's our labor. So these are the folks that we've hired that would now be on the project for longer periods of time because the consortium was extending it.

Some of the other costs would be things like insurance. We have to have -- there was risk insurance on the project and if the project is extending, then you'd have to extend that policy. That will come at a cost. So there are some things that are not labor, but I would say the majority of it is probably labor.

Michael Weinstein: I mean you haven't provided an estimate of it. Is it because you might file for liquidated damages and you don't want to give away your hand on that or (inaudible)?

Steve Byrne: There are some things in the negotiation process that we don't necessarily want to tip our hand on. Other things would be that you have a hiring plan for your staff and you might adjust that hiring plan if you've got a

new claim now to deal with. So that could impact the owners' costs. So there are some things that we can have an impact on on owners' costs.

Michael Weinstein: It's a moving target. Is there kind of a rule of thumb? I mean is it sort of a -- is it a similar magnitude to what their costs are? Is it maybe 30% of it, 20% of it, I don't know?

Steve Byrne: I've never done a ratio on the cost, so what we'll do is we'll -- when we negotiate the schedule, we'll evaluate the owners' costs based on the new schedule. Then we'll put that information out.

Michael Weinstein: And one other question I had was about the escalation. You said that their numbers are based on 2007 without escalation, and just looking at the way escalation has already affected the project, it hasn't really been much of a problem, right? Especially coming in a lot less than expected. So is that--?

Steve Byrne: To date, certainly the escalation has come in much less than anticipated because we had to forecast with the escalation was under that Base Load Review Act at the beginning of the process, and it's been very favorable for a large capital-intensive project.

Don't know why we'd want to predict what that's going to do going forward, but we didn't apply the escalation just because escalation numbers can swing fairly widely, and they've given us a relatively large range for completion. So, obviously, we're trying to negotiate towards the front end of their range, but where we end up will have an impact on the escalation. That's one reason why we're waiting on the escalation calculations.

Jimmy Addison: And let me just go ahead and process wise escalation is allowed for in the law, and the installation kind of is what it is up or down. So that's not a separate complication if that changes.

Michael Weinstein: Is there any way to estimate what the number would be with escalation, I guess, in 2014 dollars?

Jimmy Addison: Well, we've got to know all the details of what year and quarters, etcetera, those buckets fall in, and we're not to that point yet.

Michael Weinstein: All right. Thank you.

Jimmy Addison: Thank you.

**Travis Miller, Morningstar.**

Travis Miller: A question on the weather benefit that you've gotten this year. Is that going to impact at all the need for the equity? I know you guys kept it the same, just shifted a little bit. It's been -- the weather's been a pretty nice benefit for you guys. Is that going to affect next year's equity plan at all?

Jimmy Addison: Yes, Travis, on the margin, it, in fact, had affected just a little, but more than that, it's just the timing of the construction on the project. So the weather year to date has been, ballpark, 50 million pre-tax, ballpark, 30 after-tax or so, so it's not a huge driver of timing of equity.

When you've got 1.8 billion liquidity line, 30 million is not a huge swing in there.

Travis Miller: Got it. And then on the $0.29 year to date you've gotten on that electric margin, can you break that down in terms of nuclear project, customer growth, other stuff?

Jimmy Addison: Just a minute. I may have some more on that. So we talked about, let's see, $0.23 is weather, and then the BLRAs added about $0.20, I believe it is, isn't it?

BLRAs added about $0.20, and then residential and commercial customer growth is about $0.06 is the other driver where we've got 1.3% customer growth.

Travis Miller: Great. And then the other would be-- another $0.03 would just be other stuff?

Jimmy Addison: Yes, just the miscellaneous.

Travis Miller: Okay, great.

Jimmy Addison: Usage, etcetera.

Travis Miller: Great. Thank you very much.

Jimmy Addison: Sure.

**Andrew Weisel, Macquarie.**

Andrew Weisel: My first question is I just want to clarify one of the things that Ashar was asking about. You're clearly in the process of negotiating who is going to shoulder what portion of the cost overruns between the consortium and SCANA. But whatever that number ends up being for the SCANA portion, should we think of that as entirely being borne by ratepayers, or would investors somehow have to share that cost overrun?

Steve Byrne: Yes, under the Base Load Review Act, for it not to be the responsibility of the rate payers, they would have to be able to prove imprudence on the part of the utility, and certainly, we don't think that there's any imprudence on our part. So we don't think that that would be any different.

Andrew Weisel: Okay, great. Second question about the updated schedule. Again, I know that there are certain negotiations you're doing in terms of ways to shorten the delay, but the way that the consortium has proposed the updated schedule and cost estimates to you, is more of the increase coming in the near term, like 2015 or so, or is it more -- the additional cost coming more in the outer years, like 2018 or potentially 2019?

Steve Byrne: The additional cost that the consortium would propose would really be spread out over the project. Now, the project is going to spread out for a little bit longer, but I don't think the bulk of the cost will be in 2014. I think the bulk of the cost, so you can see from the slides we presented are going to be in the 2015, 2016 range. But it's spread out over the entire contract period.

Andrew Weisel: Okay, great. And then just to clarify, you were talking earlier about some of those expenses being in labor and insurance type of buckets. Would those ultimately be added to the rate base once the project is done?

Steve Byrne: Yes, they'd be a part of the capital project and would go into rate base when the project was finished.

Jimmy Addison: Yes, so they get layered in each year as we would file the BLRA increases just like they do today. Steve has, I don't know, 500 or so SCE&G employees onsite now, and he's already hired -- ramping up for training when supply comes online, and they go into the BLRA through CWIP each MAY with the filing and into new rates each November.

Andrew Weisel: Great. Thank you for clarifying. And my last question is in light of the favorable trends in terms of -- the weather helped this year, your account growth remained strong, what are your latest thoughts on when you might next to need to file for a general rate case in South Carolina?

Jimmy Addison: Well, our strategy remains to stay out of any kind of general rate increase during these peak nuclear construction years, and the key to that, obviously, is maintaining a reasonable return on the base electric business. We continue to do that. We continue to run at about a 10% return on equity, as was in our prepared comments earlier. So we're comfortable with that for the near term.

Andrew Weisel: Thanks a lot.

Jimmy Addison: You're welcome.

**Dan Jenkins, State of Wisconsin Investment Board**

Dan Jenkins: I had a little -- some questions around the schedule, in particular, the CA Unit 2, CA 1 Unit. I just wonder if you'd give a little more color. I know you mentioned that you have 46 or 47 sub-modules on site. You need to have -- what's the anticipated -- for the last sub-module, is that necessary before you can move forward, or how should we think about the timing of that CA 1 since it seems like that's a critical path item that's holding up a lot of the other steps? Is that correct?

Steve Byrne: Yes, Dan, the CA 1 is a critical module. The 47 sub-modules that comprise that come in from the Lake Charles facility by truck, and then we will make any kind of inspections and repairs on them on site in field. Then we erect them on a platform inside our module assembly building. And as I think I said a little while ago, we've got about 16 of those or 18 of those standing on the platton.

Now, what the craft are doing now is they're sitting them up, making sure they're in tolerance, and they stay the welding process. So as of right now, we have a backlog in the module assembly building, which means they've gotten more modules that they could stand up, so that's good. They're not waiting on anything.

So the absence of that one module isn't holding us up from doing the work, and we anticipate getting that last module sometime in the next couple weeks. So it in and of itself is not going to be a holdup.

And then they ought to progress towards completing that module, and our term is ready for growth, which means it's ready to be placed on the hook of the heavy lift derrick. So, basically, it means that the module is finished to that point where it can be picked up. We're anticipating that sometimes in the first half of next year.

Dan Jenkins: The first half of 2015 for CA1 could go into the unit? Is that what you're saying?

Steve Byrne: Yes, into the containment vessel. So, basically, we've got -- on the structural module side, there are really six large structural modules -- CA01 through 05-- and they all go inside the containment vessel. And then CA20 goes outside the containment vessel but still on the nuclear island on the base mat, and forms a portion of auxiliary building.

The CA20 has been set. The CA04 module has been set. The CA05 module is complete, ready to be set, and so we'll do that shortly before the end of this year. CA01 is in process inside the module assembly building, and we anticipate setting that sometime in the first half of next year.

Dan Jenkins: Okay. That's all I had. Thank you.

Jimmy Addison: Thank you.

**Stephen Byrd, Morgan Stanley.**

Stephen Byrd: Wondered if you could give an update of what you're seeing at the Sanmen project in China in terms of

overall progress, lessons learned, sort of key execution risks that you see at that site?

Steve Byrne: Yes, I think the progress in the Sanmen set has been very good. If you haven't seen pictures of it, I know they've got a photo on Westinghouse's website of a Sanmen unit from I think it was May of this year. We continue to look at it. They continue to be about two to two-and-a-half years ahead of us. We said that from the start, and that continues to hold.

If you look at the pictures of the Sanmen site, both Unit 1 and Unit 2 are coming along. Unit 1 looks like it's about finished. Their issues or their holds are probably the same kind of things we're following -- direct crimp pumps, squib valves.

Now, we've gotten some good news from the consortium on both of those fronts just recently, but they've got testing to go through, which they're into now. But they anticipate that they will be starting up those units. I think their goal is to try to do it by the end of 2015, first part of 2016. So they continue to be two to two-and-a-half years ahead of us.

Stephen Byrd: Okay. And from an overall sort of standards of engineering and sort of quality control, as you look at that and what you're seeing there, what's your general assessment of that?

Steve Byrne: Our general assessment of their quality is good. They are building it to Western standards. They don't have the same kind of regulatory oversight that we would have from our Nuclear Regulatory Commission. But that aside, we think that the quality of construction over there is good.

They are using some indigenous suppliers, particularly on the secondary side of the plant or the turbine building side of the plant, so that's where they're going to vary from us. So whereas we would use Toshiba for the turbine generator, for example, they might use somebody else. Some of the cabling and things are going to try to use indigenous Chinese suppliers that we wouldn't necessarily want to use. So there are going to be some differences, particularly on the secondary side of the plant, but the plant is coming right along.

Stephen Byrd: Great. Thank you very much.

**Michael Lapides, Goldman Sachs.**

Michael Lapides: Just coming back to the Summer project, I want to make sure I understand some things. I'm trying to get my arm around something.

So the 660 million, that's in 2007 dollars, and I could use a very low inflation number or escalation number to think about what that -- you know, 1% or 2% if I wanted -- just back of the envelope -- to think about what that is in terms of 2014 dollars.

Is there a back of the envelope we can use for the owners' costs, meaning when you first did the budget for the project and you first talked about it, what percent of total costs did owners' costs make up? I'm just trying to think about a back-of-the-envelope way to prorate this.

Steve Byrne: Michael, off the top of my head, I don't remember what the total amount of project cost was owners' cost. It was probably less than 10% of the total cost, and we can probably get some refinements for you and give you a call back with that number, but I don't have it at my fingertips. But it was not a huge portion of the total cost.

Jimmy Addison: Steve, let me just interject. That's available from the public data, Mike. It's on our website and the PSC's in our filing. It shows that broken down.

Michael Lapides: In the latest BLRA or in the original one?

Jimmy Addison: I know it's in the original. I'm not sure if it's in each quarter or not, but we'll have IR follow-up with you on that on where it's available publicly.

Michael Lapides: Okay. And is it just safe to assume that the owners' costs would escalate at kind of the same rate? If I took the 660 million and divided it by the last projected cost and then took whatever the owners' cost was and escalated it at the same amount, is that kind of a rough way to get to what the total potential cost increase would be?

Steve Byrne: I don't know that you can exactly do that. Some of the $660 that the consortium has given to us, they are truly re-baselining things, so they're looking at the experience of it being to date on things like module fabrication, onsite efficiencies, engineering completion, those kind of things. So the owners' costs wouldn't follow that necessarily.

A good majority of owners' cost is just because the staff that we've hired are going to be onsite for a longer period of time, and then there's some other things like -- I discussed insurance. We'll have some increase of regulatory commission fees, those kind of things. But the bulk of it is going to be with the people that are there for longer periods of time. And we're looking at things that we can do now. Perhaps we don't need that staff quite as early with whatever is the new schedule that we negotiate. We may take some actions to kind of delay some of that hiring, so we will have some impact on those owners' costs.

Michael Lapides: Got it. And then one or two just for the more modeling-related items. Jimmy, in the release, you all talked a little bit about -- in the corporate and the gas marketing business description, you also talked about a little bit higher corporate or holding company interest cost. Is there a new debt issuance, or did you ramp up short-term debt during the quarter at the holding company level?

Jimmy Addison: No, that is a very, very minor piece of that variance, Michael, so don't get too hung up on that one.

Michael Lapides: Got you. And then, lastly, going into the end of the year, what's your expectation for O&M for like the fourth quarter? Like you had talked about O&M being up a good bit in 2014 over 2013. It hasn't quite been up as much as maybe expected it would be, and you all have done a good job managing that. How do you end the year on the O&M line?

Jimmy Addison: Yes, I think the run rate you've seen to date is a pretty good projection for the fourth quarter based on what we know today.

Michael Lapides: Meaning kind of a similar year-over-year growth rate that we've seen in the other three quarters?

Jimmy Addison: Yes, if we continue to do a better job than our plan in managing that cost, so we're encouraged by that.

Michael Lapides: Got it. Thank you, Jimmy. Much appreciated.

Jimmy Addison: Sure.

**Ashar Khan, Visium.**

Ashar Kahn: Jimmy, in response to Jim's question, I just wanted to clarify. So the midpoint right now is $3.80, and if you take $0.20 off it for the normal weather, you get to a $3.60 normalized 2014, and that would be the new start point when you give guidance for the 3% to 6% for fifteen and onwards going forward?

Jimmy Addison: Only if that's where we end up at year end. So I'm sure some things will change between now and the earnings at December 31, but that is based upon today. There will be both weather-related changes in Q4 and non-weather-related changes, but we'll evaluate all that and come out with a new number. So I'm not giving you $3.60 as a base today. No, we'll give you a new number in February.

Ashar Kahn: Okay, but you said you base it off normalized earnings, right? Normalized weather earnings, right? Is that correct, or there are certain other things that you do?

Jimmy Addison: That is correct, but some other things could change in Q4 that I don't know of today. There could be something that's abnormal that's unrelated to weather.

Ashar Kahn: Understood, understood.

Jimmy Addison: Okay?

Ashar Kahn: But right now, the $3.70 to $3.90, the new forecast, that is higher just because of normal weather that you have had? Is that correct based on what you're giving us today?

Jimmy Addison: Not totally, but the majority of it is. So, look, we're raising it $0.25, and the weather is $0.23 or so of that. So there's two or three other cents in there for things we've experienced year to date that we're putting into the revised guidance today.

Ashar Kahn: Okay, fair enough. Thank you.

Jimmy Addison: You're welcome.

**Operator**: And, ladies and gentlemen, that will conclude our question-and-answer session. I would like to turn the conference back over to Jimmy Addison for his closing comments.

**Jimmy Addison**: Yes, first of all, I want to say thanks, everyone, for your patience for bearing with us today with this technical problem we had. Thank you for hanging with us for a couple hours here to get through this.

I want to tell you we're pleased with our results through the first three quarters with only quarter left in the year, and we continue to focus on the new nuclear construction and on operating all of our business in a safe and reliable manner.

We appreciate you joining us today, and we thank you for your interest in SCANA.

**Operator**: Ladies and gentlemen, the conference has now concluded. We thank you for attending today's presentation. You may now disconnect your lines.

**Crosby, Michael**

**From:** Hood, Jane
**Sent:** Thursday, November 13, 2014 3:52 PM
**To:** Carter, Lonnie
**Cc:** Arnsfield, Jeff; Ritter, Suzanne; Crosby, Michael
**Subject:** Estimated Cost of New Nuclear Delay

Based upon information currently available, Michael, Suzanne, and I developed the estimates below for the cost impact of the delayed completion of VC Summer 2&3. These estimates will require updating and additional scrutiny should other legal steps be desirable, but can be used to estimate the value of the projects finishing as close to the original schedule as possible.

**Estimated Cost of VC Summer 2&3 Delay in Substantial Completion**

| | | |
|---|---|---|
| Delays to date: | | |
| VCS 2 | March 2017 - June 2019 | 27 months |
| VCS 3 | May 2018 - June 2020 | 25 months |
| Estimated cost impacts | | |
| Fuel and Power Replacement | | $455,000,000 |
| Owner's Cost | | $195,000,000 |
| Debt Service | | $365,000,000 |
| | | $1,015,000,000 |
| Annual cost of 27 month delay | | $450,930,278 |
| Monthly cost of delay | | $37,577,523 |
| Daily cost of delay | | $1,235,425 |

Notes:
- Debt service estimate does not include any potential costs attributed to a downgrade in credit rating (approximately $100M-$200M in financing cost for a 1 credit downtick and 2 credit downtick respectively)
- Fuel and Power Replacement based upon April 2014 Fuel Forecast

santee cooper

# VC Summer Units 2 & 3, 2014 EAC Analysis and Discussion of Cost Changes

Report prepared by Owner's EAC Review and Validation Team

Ken Browne – NND B&F
Margaret Felkel – NND B&F
Kevin Kochems – NND B&F
Sheri Wicker – NND B&F
Kyle Young – NND Construction

This report was prepared based upon an analysis of the revised EPC Project Estimate at Completion (EAC) for Target and T&M cost categories as prepared by the EPC Consortium and presented to the Owner on August 29, 2014. Subsequent to the Consortium presentation the Owner's EAC Review Team convened and conducted a detailed review of the data as presented and as provided at later dates as requested to support the original presentation. Several subsequent meetings were conducted with various members of the Consortium team to review the additional data and discuss the estimate. This report was prepared based on use of the December 2018/December 2019 Substantial Completion Dates for Units 2 & 3 respectively.

**Discussion of the EAC Details:**

(In the order presented on the Client Summary Sheet)

1.0 2007 $'s Sch @ CO-16 PSC Approved

This column provides the cost basis for Target and T&M costs for both CB&I and WEC as it existed in the Consortium budget at the execution of the CO-16 "Settlement Agreement" (July 2012), with the exception of "Deviations" for identified Consortium Contingency usage prior to that time. This budget included an EPC Target Price Consortium Contingency of approximately $130 Million. The total EPC Consortium budget for Target Price was $1,935,976,000 and for T&M Price was $302,748,000.

2.0 Site Layout C.O.

This column provides the cost estimate for site layout modifications requested by the Owner related to re-defined security requirements. This is an "Owner –Directed" Change and the Consortium is entitled to 100% of the actual cost. It should be noted that in addition to the Target and T&M costs indicated in the EAC, there are additional Firm Price cost impacts which are not included in the EAC. At the time of EAC submittal, this Change Order had not been submitted and the estimated Target Price cost is $20,465,000 and the estimated T&M cost is $36,000 (Excluding CB&I G&A and Profit to be added later in the EAC template). Subsequent to submittal of the EAC, revised prices for the Change Order were submitted and the total Target Price impact of the Site Layout Changes has increased to $36,000,000 with $43,000 T&M and an additional Firm Price impact of $21,000,000. All costs presented are in 2007 $'s. The EAC analysis spreadsheet has been updated to reflect this additional cost.

There is no WEC cost impact from this Change.

3.0 Cyber Security C.O.

This column provides the cost estimate for additional Cyber Security provisions required for VCS Units 2 &3 due to Regulatory Changes by the US NRC. Due to the uncertainty surrounding the Cyber Security Change Order, all costs are included in the T&M Price category by the Consortium. The Owner continues to negotiate the work scope included in this Change and monitor the costs of this work evolution. Subsequent to the EAC submittal, the projected T&M cost impact to CB&I is $10,030,582 and $24,180,500 to WEC (including G&A and Profit to each Consortium party). Both parties are entitled to full compensation for the performance of the negotiated scope at EPC controlled T&M rates, as this Change is related to a "Change in Law." In addition to the amounts listed above, there will be further costs associated with Vendor Change Order T&M work. These costs are not included in the current T&M proposal as the work is dependent on a number of estimates and assumptions that are unknown at this time. The Consortium will invoice these costs to the Owner via separate change orders as they are identified and incurred. For the purposes of this EAC review, the Owner has estimated $7,500,000 for the total sum of the Vendor Change Orders. However, it should be noted that this is a broad estimate and that the total cost could be much higher or lower. Although these costs were not included in the EAC by the Consortium, the Owner believes that the Consortium is entitled to the total amount.

4.0 Quantity Changes

This column addresses the additional CB&I craft labor costs associated with commodity quantity changes that have been identified since the original estimate was developed and incorporated in approved "Deviations". These quantity changes are the result of design change/refinement and site specific issues. The costs of all commodities are included in the Firm Price and are not included here. In addition, CB&I has used this column to shift categories for two specific work scopes (Shield Building Erection and HVAC) from self performed to sub-contract. This is represented by the $57,575,000 included in the Direct Subcontracts line. Corresponding reductions are included in the Unit 2 and Unit 3 Direct Labor costs, but they can't be identified in the summary sheet. The Owner agrees that the Consortium is entitled to 100% of this cost through the normal Target Price billing. The EAC total is unchanged at $87,346,000 + G&A and Profit and Entitlement is the same amount.

5.0 Craft Productivity

This column accounts for the lack of productivity and additional labor costs within the Direct Craft category. The original budget assumed a PF of 1.00. This column takes the PF to an overall 1.19, using a 1.15 To-Go PF. As of 12/2/14 (for reporting period through October 2014), the Productivity Factor (PF) for the project to date was 1.49 . In the four subsequent months since receipt of the EAC, the ITD PF has increased steadily from 1.45 to the current value, due to monthly values of 1.97 for August, 1.95 for September, 1.91 for October and 2.48 for November.

In its EAC, the Consortium assumed that the project would reach a goal PF of 1.15 within 6 months. This does not appear to be achievable. The Owner does not believe the assumed To-Go PF of 1.15 is achievable with the current CB&I organization, so the EACH Review Team recalculated the cost with a PF factor of 1.40 To-Go. This resulted in the Owner's EAC estimate increasing $167,461,000 for Direct Craft labor. However, the Owner believes that CB&I should only be entitled to recovery of a reasonable PF, like the one assumed in the EAC (1.19). The Owner therefore does not think CB&I is entitled to any additional costs beyond their estimate of $81,763,000.

6.0 Schedule Impact

This EAC category is comprised of Target and Time & Materials increases for both CB&I and Westinghouse due to delays associated with Structural Modules and Westinghouse Design Engineering issues that result in new Commercial Operation Dates (COD's). The EAC Review Team recommends $0 of increased entitlement for these Target and Time & Materials costs. The Owner has already agreed to increased costs for Structural Module Delays in proposed Change Order 16 and the associated interim Letter Agreement. Delays due to design engineering issues are the responsibility of Westinghouse.

CB&I Target

CB&I includes increased costs for Indirect Construction Labor, FNM Labor and associated FNM expenses for hotel load, Distributables and Fuel associated with Construction Equipment. All increased costs are due to the schedule delays associated with Structural Modules and Westinghouse Design Engineering issues. Based on CB&I's estimating methodology, the EAC Review Team believes these costs are inflated. An example of these inflated costs was the methodology used for distributables whereby CB&I did not look at what was previously spent on distributables but used a "forward looking" estimate of distributable expenses and may include some Firm Price distributables (Change Order #8) such as construction equipment and office supplies and equipment.

CB&I Time & Materials

CB&I includes increased costs for scaffolding craft and FNM labor and used a factor applied to Target scope indirect labor to determine the estimate for craft labor. CB&I also increased its estimate for one Field Non Manual Supervision Employee for hotel load associated with the Schedule Impact. CB&I increased its estimate for distributables for additional scaffolding materials. The EAC Review Team questioned CB&I as to why Scaffolding costs would increase due to the Schedule Impact of Structural Module Delays. The explanation given was not sufficient to support an increase in scaffolding costs related to a Schedule Delay.

Westinghouse Target

Westinghouse includes increased costs associated with its subcontract with CB&I Services for the Containment Vessel Fabrication and Assembly. The EAC Review Team evaluated the estimate documentation provided by CB&I Services to Westinghouse and found erroneous assumptions and mathematical errors. Westinghouse stated that CB&I Services has retracted

this estimate pending additional information and that a new estimate will not be given to the Owner for review with the EAC. Based on a review of the documents provided by CB&I Services to Westinghouse, CB&I Services' updated estimate includes charges for professional/supervision hotel load for 16 months for what CB&I Services considers a delay related to the Containment Vessel Fabrication and Assembly Schedule (mostly due to Westinghouse design issues/changes) plus the COD Schedule Impact Delay.

Westinghouse Time & Materials

Westinghouse includes increased costs for hotel load for professionals working on Licensing and Startup related to the Schedule Impact and new COD's.

7.0 Base Scope Refinement

This EAC category is comprised of Target and Time & Materials increases for Westinghouse due to refinement in Base Scope tasks. The increase in Target costs are associated with Westinghouse EPC Management for CB&I Construction Support and an increase in base scope associated with changes in the estimate from CB&I Services for Containment Vessel Fabrication and Assembly. The increase in Time & Materials costs are associated with additional base scope changes for Plant Startup and Testing netted against an estimated decrease for Import Duties associated with equipment.

Westinghouse Target

Increased cost estimates associated with EPC Management for CB&I Construction Support are due to Consortium's decision to apply a best talent/best athlete approach of using Westinghouse Management Personnel (an approximate staff of twelve managers) to supplement CB&I Construction Management. This base scope of work was never previously included in Westinghouse's Target work scope. The EAC Review Team recommends $0 entitlement, since these costs are directly related to the incompetency of CB&I's construction management staff.

Increased cost estimates due to changes in the CB&I Services Subcontract for the Fabrication and Assembly of the Containment Vessel have been reviewed by the Owner and increased costs are entitled due to change orders between Westinghouse and CB&I Services for this Target Price Work Scope.

Westinghouse Time & Materials

Increased cost estimates associated with Plant Startup and Testing are due to Westinghouse's completion of a resource loaded Plant Startup and Test Schedule. The Owner's Operational Readiness Staff reviewed this schedule with Westinghouse and agrees that increased costs may be entitled. The EAC Review Team recommends that any additional costs in this base scope refinement be paid at Westinghouse Base Scope Labor Rates per EPC Table G-1 because this is not new work scope.

Increased cost estimates due to changes in licensing base scope is the result of an increased workload for Westinghouse to support its licensing efforts. Upon review of this estimate, the

EAC Review Team discovered that Westinghouse is attempting to recover Firm Price Licensing Work Scope through T&M Work pricing. The EPC Contract specifically states that the Consortium must provide the Owner with a "Licensed Plant" and much of this estimated additional work is included in Westinghouse's Firm Price Work Scope. Comments from the Owner's Licensing Manager include statements that there has only been one Owner directed LAR (Licensing Amendment Request) and all other E&DCR's and LAR's are due to Westinghouse changes/issues. The Owner has experienced increased costs due to additional licensing support staff and NRC fees to review Westinghouse's licensing changes. The EAC Review Team recommends $0 entitlement for the increased costs above the original T&M Licensing Allowance and suggests seeking recovery from Westinghouse for the increase in Owner's costs associated with these changes.

Decreased cost estimates due to changes in Import Duties are directly associated with the decrease in duties associated with the Federal Government's Korean Free Trade Agreement. The EAC Review Team agrees that the Owner has already seen a decrease in import duties associated with equipment from South Korea. Although the Owner cannot verify Firm Price costs used to compute Import Duties it is assumed that this $15 million decrease is a reasonable estimate and agrees to deduct from the EAC.

8.0 Regulatory Driven

This column addresses Westinghouse costs associated with changes that are regulatory in nature as identified by the Consortium. The three scopes included are: Plant Startup & Testing, ITAAC Maintenance, and the Affordable Care Act. Both of the estimates for ITAAC Maintenance ($2,623,837) and the Affordable Care Act ($4,502,868) appear reasonable and the Owner believes the Consortium is entitled to these costs per regulatory changes enacted since the EPC Agreement was signed in 2008. For Plant Startup & Testing, the Consortium has identified $30,000,000 in regulatory driven changes, which includes costs for CVAP, FPOT, F3POT and hotel load costs. The Owner does not believe that all of the costs included in this estimate are appropriately identified by the Consortium as new scope per regulatory changes. Costs that should not be contained in this estimate include any and all costs identified as Firm Price by the Owner such as Home Office Program Managers.

9.0 Contingency/Risk Evaluation

CB&I Target

This EAC category is comprised of increased CB&I Target costs for Contingency based on 11% of the ETC (Estimate-To-Completion). The EAC Review Team recommends $0 entitlement since CB&I's Contingency account has been restored for the inclusion of previous contingency usage in the "Quantity Changes" and "Other Miscellaneous Adjustments" categories of the EAC and this restores the Consortium to a Target Price Contingency of $123M, which is approximately 6% of the remaining ETC.

10.0 Other Misc. Adjustments

This column provides the projected cost impacts of identified changes that have not been incorporated into deviations by CB&I. In addition to cost changes due to design completion and refinement, included in this category are cost impacts due to other issues such as the delayed completion of the NI base mat due to design changes in the reinforcing bars. Cost Impacts such as this which are the responsibility of the Consortium are recognized, but are not included in the "entitlement" for CB&I. Some of the supporting information for these costs included interviews with CB&I personnel. CB&I was unable to substantiate the total costs for this EAC category.

11.0 Field Non Manual (FNM)

This column provides the cost estimate for additional FNM employees required to complete the project. CB&I provided details to support the cost included in the EAC. The Owner was able to verify the EAC amount, and determined it is reasonable only if CB&I conforms to the staffing plan as provided to the EAC Review Team. In addition to the staffing plan provided to the EAC Team, CB&I has provided a curve with limited data to indicate FNM staffing plan for site facilities and resource planning purposes. The FTE quantities reflected in the curve appear to be substantially higher than the detailed plan provided (20% +). Following the curve vs. the plan will result in a significant impact to the FNM cost.

Using the detail provided by CB&I, the Owner made additional adjustments to the estimated costs to complete the project by 1) applying actual pay rates and 2) extended the time employees were on-site to a more reasonable date (ex. Project Accounting). This analysis resulted in the base scope FNM estimate of $179M (Excluding G&A and Profit to each Consortium party to be added later in the EAC template). CB&I would only be entitled to $146M of these costs due to the fact that FNM costs have a factor of 1.70 added to them to cover administrative expenses. The Owner has been told that the actual factor experience by CB&I is approximately 1.3-1.4. Therefore, the Owner should only pay a 1.4 markup on any FNM expense incurred in excess of the amount originally budgeted.

12.0 Acceleration

This column contains an estimate for the increase in project cost due to acceleration to meet the December 2018/2019 SCDs. The Consortium has identified approximately $171M for both Target and T&M costs. Of this $171M, $7.5M was incorrectly included as Target Price for FNM Living Allowances and/or Relocation expenses. These costs should be Firm Price. The majority of the acceleration costs are due to the introduction of a limited night shift of 340 Direct Craft, 100 Indirect Craft, and 60 FNM employees. There are also an additional 100 FNM added to the day shift to support the new night shift. The Owner does not believe the Consortium is entitled to any of the $171M of acceleration costs as the acceleration is necessary due to Structural Module Delays.

13.0 Total EAC

Through various discussions with the Consortium the Owner understands the methodology used by the Consortium to estimate these costs. For the majority of these costs, a fairly

judgmental/subjective approach was used rather than a formulaic methodology. As such, the EAC Review Team would be challenged to reproduce these costs if requested. When viewed as a rough order of magnitude this estimate appears to be a reasonable attempt at establishing the minimum Target Price and T&M Price to be expected for completion of the project.

The EAC Review Team believes it has a reasonable understanding of the majority of the costs presented by the Consortium. However, understanding does not equate to agreement of the costs. There were several action items that the Owner did not receive complete answers for but deferred further discussion due to materiality.

**In an effort to help inform our legal staffs … following are high-level bullet notes which hopefully capture the essence of yesterday's meeting with the Consortium.**

**Kevin & Steve … if I have missed anything pertinent … or misrepresented anything … please do not hesitate to let me know … M. Crosby**

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**Rebaseline Schedule / EAC - Owner / Consortium Meeting (Round 2)**
**SCANA Headquarters - Dec 10, 2014, 10:00am**

**Attendees:**
**Kevin Marsh, Steve Byrne**
**Lonnie Carter, Marty Watson, Michael Crosby**
**Phil Asherman, Pat Mullin, Jeff Lyash, Kelly Trice, Luke Scorsone**
**Kiyoshi Okamura, Danny Roderick, Jeff Benjamin**

- **Upon arrival, Phil Asherman and Danny Roderick met privately for about 30 minutes.**
- **Meeting with Owners began around 10:45am.**
- **CB&I (initially) took the lead in the meeting.**

**Project Schedule (summary of Jeff Lyash remarks)**

- **The Shield Building(s) remain the critical path to project completion.**
  - **The Consortium recently completed a detailed review of the Shield Building material delivery schedule and construction execution plan.**
    - **Based on a confirmed NNI wall panel delivery schedule and the results of trial fit-up work recently completed at the Vogtle site … the Dec 2018 – Dec 2019 Unit completion dates are no longer achievable.**
    - **The Consortium believes … the June 2019 – June 2020 Unit completion dates are achievable but stated these dates still contain significant risk … primarily based on the wall panel fit-up issue.**
    - **CB&I offered no willingness to accept any additional risk (or skin in the game) based on these later dates.**

**Regulatory Change**

- **Based on comments from Pat Mullin, Jeff Lyash, Danny Roderick and Jeff Benjamin … the Consortium was united on its point that "regulatory change" has been the primary culprit for the project delays realized to date.**
  - **Jeff Lyash further claimed that "regulatory change," stemming from the NRC ruling on the Unit 2 basemat concrete issue (ACI 349 - Dec 2012), has had a resounding impact on all civil and structural work … including submodule fabrication work.**
  - **Per Jeff Benjamin … WEC will be presenting the Owners in the near term an invoice (against fixed and firm categories of work) supporting its claim of "regulatory change." The invoice will be backed with 10,000 pages of supporting information.**

- **CB&I offered no willingness to back-off of the $1.2B EAC.**

**Other Noteworthy Comments … in no particular order**

- **Kevin Marsh was extremely clear on the following points:**
  - **His disappointment in the Consortium leadership for allowing so much time to elapse before agreeing to a follow-up meeting … including the fact that the Consortium came to this meeting with no real counter-proposal.**
  - **The Owners (greatly) prefer seeking a settlement that all parties can live with … litigation will forever change the landscape of the Project.**
  - **SCE&G will make a filing with the PSC near the end of Q1 2015 … at which time SCE&G will present a new schedule, proposal on (potentially new) BLRA milestones and an estimate to complete the Project. In the absence of having an agreed upon estimate to complete the Project … SCE&G will inform the PSC that in order to protect its customers the Project is headed to litigation … and that SCE&G will present the results of such litigation to the PSC when they become available.**

- **Lonnie Carter … on "regulatory change." Regulatory change typically includes public notices, hearings, etc. which ultimately result in an actual change to a regulation. Santee Cooper is not aware of any such change to the NRC regulations governing this project … and accordingly does not agree with the Consortium's argument on "regulatory change."**

- **Steve Byrne comments after the meeting:**
  - **He anticipates the WEC "regulatory change" invoice will be for approximately $70M.**
  - **Phil Asherman had good legal coaching in preparation for this meeting … and apparently sees no reason to give up on its $1.2B ask.**

- **Michael Crosby … note to Owners:**
  - **The $1.2B EAC … was the "accelerated version" based on the Dec 2018 – Dec 2019 Unit completion schedules. With these dates now off the table … we should revert back to discussing only … the $1.0B EAC.**

**Near Term Path Forward**

- **Round 3, Dec 19, 2014, 10:00am – Consortium agreed to a follow-up conference call:**
  - **SCE&G to provide a meeting notice with call-in instructions.**
  - **Kevin Marsh asked Michael Crosby to help coordinate an Owners meeting (or conference call) including attorneys to discuss this meeting and strategy forward in preparation for Round 3.**

(19)

# Bechtel Timeline

**Aug 24, 2015**

**Jan 28 - Bechtel Meeting # 1 (Charleston)**

Carter, Crosby, Watson
Bechtel: Albert, Adams

- First meeting to discuss Bechtel capabilities and need for project intervention.

**Feb 17 - Bechtel Plan … first discussed with SCANA (Cayce)**

Marsh, Byrne
Carter, Crosby, Watson

- Discussed Jan 28 meeting … and the Bechtel Assessment Proposal
- Marsh, Byrne open to concept
- Marsh calls Carter several days later … and gives go ahead to set-up meeting with Bechtel

**Apr 7 - Bechtel Execs … formally introduced to SCANA (hangar)**

Marsh, Byrne
Carter, Crosby, Watson
Bechtel: Albert, Adams, Rau

- Adams, Albert & Rau presented Bechtel's nuclear resume of mega-project assessments and rescues.
- Rau particularly showed well and connected with Marsh.
- Marsh was appreciative of Santee Cooper's effort with Bechtel … and agrees to move forward with Bechtel Assessment pending SCANA board approval.

**Apr 21 – Owner Strategy Meeting (Cayce)**

Marsh, Byrne, Archie, Lindsey, Bynum
Wenick
Carter, Crosby, Baxley, Pelcher, Cherry, Watson

- Owners have broad discussion of project challenges, legal strategy, etc.
- Bechtel Assessment Proposal discussed again
  - Marsh confident he will receive Board approval … at end of month
- Carter / Marsh agree … next step will be face-to-face meeting with Consortium CEOs
  - Bechtel Assessment will be required

**Crosby, Michael**

| | |
|---|---|
| **From:** | Albert, Craig <cmalbert@Bechtel.com> |
| **Sent:** | Thursday, February 05, 2015 6:00 PM |
| **To:** | Carter, Lonnie; Crosby, Michael; Crosby, Michael; Carter, Lonnie |
| **Cc:** | Adams, Mike A. (BGI); Troutman, Tyrone; Watson, Marty |
| **Subject:** | DRAFT Proposal from Bechtel |
| **Attachments:** | VC_Summer_Assessment_Draft_Proposal.pdf; ATT00001.htm |

Lonnie, Michael,

Attached is a draft of the proposal we committed to providing, and below is a draft of the text I would include in a letter transmitting the final/formal proposal. Please advise of any changes you would like us to make.

Look forward to hearing from you.

Craig

Dear Lonnie and Michael,

Thanks again for meeting with Mike Adams and me on January 24 to discuss the status of the V.C. Summer project. Successful delivery of this project is obviously essential for Santee Cooper, SCANA, and your contractors, but it is also vitally important to our industry and to Bechtel. We understand how important it is to you that the project be executed in the most prudent manner possible and that the new units be delivered at the earliest possible completion date.

Bechtel has supported a number of owners in performing independent assessments of complex EPC projects and we are committed to making a team of senior Bechtel personnel available to support such a review on V.C. Summer. We are very knowledgeable of the AP1000 design basis and our broad experience with world-wide supply chain management, grass-roots nuclear construction, and executing mega projects that leverage large scale modularization provides us with the insight needed to understand the complexities and challenges to deliver this project.

Given the importance and magnitude of this project, I handpicked Bechtel Senior Vice President Mike Lewis to lead our proposed assessment team. Mike is one of our very best project managers for complex, mega projects and is currently serving as our corporate Manager of Construction, the most senior construction manager in Bechtel. In addition, we have included other senior managers on the team who have very successful history working at V.C. Summer.

In terms of the assessment, we propose that our team focus on understanding the current status and forecasted path to completion through various aspects of the project including: design; supply chain management, with emphasis on module fabrication; construction; and startup. With WEC's support, we can focus on getting a clear picture of the status of the WEC design and licensing efforts and evaluate how those activities may impact the future path to completion. Our team will review project metrics and reports; interview select owner and contractor personnel; and visit the site and key fabrication facilities to evaluate the health of the project execution plan and the thoroughness of the current forecast – from both a schedule and cost performance perspective.

Note that our review will focus on the methods and tools being used to manage project execution, changes, and risks, but will not review the attribution of past impacts or validity of any pending or future claims. Beyond the numbers, we plan to assess the degree to which all parties are aligned in a positive project culture focused on the quality and efficiency of project delivery. We will also look for potential opportunities to tailor contractor oversight given the current project status and circumstances.

As part of our assessment, we will provide you with our initial conclusions and recommendations focusing on the most prudent path forward, and what that means in terms of cost and schedule to improve the trajectory of the project. We are confident, based on our experience in the industry and with assisting owners in completing complex projects that we can provide recommendations that will help you and your current contractors with delivery of your project.

The effort for an assessment of this magnitude will require approximately 10 senior managers, will last 8 weeks in total, and will cost $1 million. Attached is a **DRAFT** proposal that outlines and further defines the details for how the assessment will be executed, key members of the team, commercial considerations, documents and data that are needed from the project to support the assessment, and the proposed topics for the assessment report. Additional information on Bechtel's experience with the AP1000 technology and other relevant projects is also included.

We look forward to supporting you in this endeavor and are prepared to start at your request. I suggest we quickly set up a follow-on meeting with some of our key team leaders to further discuss this effort in detail and answer any of your questions. We are prepared to formally issue this proposal if it meets your expectations and can obviously incorporate any changes you would like. I would be happy to help finalize our proposal. Ty

Troutman, our General Manager for Nuclear Power, who is copied on this email and can be reached at 703-429-6284, can also help coordinate this follow on discussion. Please let me know of any questions.

Best regards,

Craig

## Assessment Objective and Overview:

The objective of this assessment is to assist the owners of the V.C. Summer Nuclear Generating Stations Units 2 & 3 in better understanding the current status and potential challenges of the project as a first step in helping ensure the project is on the most prudent and cost efficient trajectory to completion. Bechtel proposes to assemble a team of senior subject matter experts experienced in the various aspects of nuclear and large scale complex project execution to perform this assessment. This team will be supported by the institutional knowledge of Bechtel's 4,400 person strong Nuclear, Safety and Environmental business unit that is the home of Bechtel's full-scope nuclear capabilities — i.e., "cradle to grave" experience from research and development and EPC project execution through commissioning and operations and decommissioning.

The team will evaluate the current status and forecasted completion plan through the design, supply chain, and construction aspects of the project. There will be focus on understanding the issues that have caused impacts to date, assessing the effectiveness of the mitigation plans put into place to address those issues, and reviewing the project management tools and work processes being employed to plan and execute the project, including change management, through completion and turnover of the units. For clarity, this team will not evaluate the ownership of past impacts or validity of pending or future claims. To accomplish this, we will leverage the lessons learned from helping owners assess and complete nuclear projects over the last 30 years, including ongoing work on the Watts Bar Unit 2 Completion and Olkiluoto 3 projects. The assessment will take place at the V.C. Summer site, select module fabrication facilities, and the design office (if supported by your contractors).

Outlined below are additional details for how the assessment will be executed, key members of the team, commercial considerations, documents and data that are needed from the project to support the assessment, and the proposed topics for the assessment report. Additional highlights of Bechtel's relevant project experience and with the AP1000 technology are also included.

As this project is one of the frontrunners in the next wave of new nuclear generation in the United States, the efficient execution of these units will set the tone for future efforts in the industry. Bechtel is confident we can apply our experience and lessons learned on complex nuclear projects to add value to the owners of the V.C. Summer plant as they assess their most prudent path to completion.

## Execution Approach:

Initially, a small team of senior Bechtel subject matter experts, experienced in mega project construction, nuclear new builds, and project management, will seek to gain a better understanding of the current state of the project. This "data validation phase" will last approximately one (1) week, will take place at the V.C. Summer site with your organization, and ideally include input from both WEC and CB&I. The goal during this phase of the assessment will be for our team to better understand the available project progress data and metrics and see how they compare to our project standards (i.e., the

level of detail included, who it is produced by, and the frequency with which it is published). The team will also gain insight into the execution control processes and seek to confirm some of the drivers of the current status. This phase would conclude with a validation of the path forward to complete the assessment, including denoting the required level of cooperation necessary by your contractors to produce the optimal evaluation and recommendations for the assessment. A list of the topics to be covered during this phase, along with the documents that should be provided as pre-read material to Bechtel is provided in Attachment 1.

With the completion of the data validation phase, the remainder of the assessment team will mobilize at the V.C. Summer site. Upon arrival, the Bechtel team will complete the required site access training (as necessary) to reduce the administrative burden on your team during our assessment. After completion of training, a kick-off meeting will be held between SCE&G/Santee Cooper and Bechtel to ensure alignment of goals and expectations as well as needed support. Following the kickoff meeting, a walk down of the V.C. Summer site including temporary facilities and laydown areas for material and equipment, will be necessary in order for the team to gain familiarity with the site layout before beginning the interview process with the SCE&G/Santee Cooper team.

Following the site walk down the assessment team will interview the SCE&G/Santee Cooper leadership team members. The list of the leadership team members in question will be provided at the conclusion of the data validation phase. The interviews will take place at the appropriate locations — namely at the site, WEC's design office or module fabrication facilities. The entire Bechtel team typically participates in each of the interviews as they are intended to provide the Bechtel team with a broad overview of each function/department and the major issues or concerns for each area. This information will assist the Bechtel team in understanding how the contractors are organized and managed and in gauging the current EPC culture and potential impacts to the execution approach on the project. Armed with this information the team will then focus its efforts on specific areas of concern during the functional breakout sessions. Should WEC/CB&I choose to participate, this same process will be performed with their leadership team.

With the completion of the leadership interviews, the Bechtel team will proceed to the functional breakout sessions. During this period, the Bechtel team will break out by their assigned functional area and work directly with your and WEC/CB&I's team managers responsible for their respective functions. The Bechtel team will focus on a review of the various tools, documents, and reports and their ability to support the efficient and timely planning, management and completion of the project. Because the Bechtel team members have cross-functional experience and expertise, it may become necessary for short periods of time for Bechtel team members working in other areas to temporarily redirect their efforts to specific issues as appropriate.

The completion of the assessment will take approximately seven (7) weeks following the initial data validation phase. The proposed table of contents for this report is provided in Attachment 2 below. Following your review of this report, Bechtel will meet with your team to discuss any questions you may have.

## Key Team Members:

The senior Bechtel subject matter experts proposed for the assessment team are listed below, and the resume for each individual is provided in Attachment 4:

- Mike Lewis – Executive Management
- Mike Robinson – Project Management and Construction
- Ron Beck – Project Management and Engineering
- Randy McCarraher – Project Management and Project Controls
- Ed Sherow – Design and Licensing
- Steve Routh – Design and Licensing
- Bob Exton – Supply Chain Management

## Commercial Considerations:

This assessment will be completed by approximately ten (10) senior managers, last eight (8) weeks in total, and will cost $1 million.

This scope of work can be performed under a simple consulting agreement. We propose 25% of the cost be paid on mobilization with the balance due upon delivery of the report and recommendations.

Any confidentiality agreements required by you or your contractors can be completed on an expedited basis.

## Attachments:

1 – Initial Data Validation Phase
2 – Assessment Report Table of Contents
3 – Bechtel Background and Relevant Experience
4 – Assessment Team Resumes

## ATTACHMENT 1
## Initial Data Validation Phase

The following documents are needed for the initial data validation phase and we request this information be provided at least one week in advance of our initial visit to the V.C. Summer site.

- Owners organization structure that oversees the V.C. Summer project
- Contractor organization chart(s) for the V.C. Summer project (down to the department/functional lead level)
- Recent monthly progress report(s)

Activities during the initial data validation phase:

- Review project reports and documentation available to SCE&G/Santee Cooper, including, but not limited to the following:
  - Project execution plans and/or procedures
  - Owner and contractor organizational charts
  - Project schedule hierarchy — e.g., milestone management schedule, supported by increasing levels of detailed, integrated EPC schedules
  - Monthly progress reports
  - Cost and/or schedule forecasts, including staffing projections
  - Supply chain information, including module fabrication/production schedules for each facility and quality findings
  - Action item/issue management lists
- Meet with key owner personnel to understand the following:
  - Discuss the evolution of the project to date, including impacts and changes
  - The current state of relations between owners and contractors
  - Understand any financing time constraints, lender commitments or lender rights that could influence the path to completion
- Hold discussions with contractors to gain an understanding of the challenges facing the project to date
- Discuss options for securing contractor cooperation and engagement during completion of the assessment
- Verbal report out to owners on progress during this phase and confirmation on the path forward for the remainder of the assessment

## ATTACHMENT 2
## ASSESSMENT REPORT - TABLE OF CONTENTS



*Note: the various departmental/topical focus assessments above will contain the following information:*

- *Summary*
- *Current Status*
- *Risks to Project Completion*
- *Observations and Recommendations*

# ATTACHMENT 3
# BECHTEL BACKGROUND AND RELEVANT EXPERIENCE

### Nuclear, Security, & Environmental

All nuclear specialists in Bechtel are now consolidated into a single business unit named Nuclear, Security & Environmental (NS&E). This 4,400 employee company comprises all of Bechtel's 60+ years of experience in the nuclear industry including best practices, lessons learned, systems, tools, and processes.

This expertise includes engineering, procurement, and construction (EPC); commissioning and operational support; upgrades; and decommissioning and cleanup of nuclear power plants; naval nuclear propulsion systems; facilities for nuclear weapons research and development, manufacturing, production, assembly, disassembly, refurbishment, testing, and general stewardship; nuclear waste treatment and disposal facilities; and government facility decontamination.

Annually, we perform approximately $6 billion worth of these services for our commercial and government customers. This diversity of nuclear projects has enabled Bechtel to maintain the broadest contractor nuclear expertise and capacity in the industry.

### Nuclear Power

Bechtel continues to be a global leader in the design, procurement, and construction of nuclear power plants, whether it is modifications to existing facilities, new build, or next generation technology development. Bechtel has been an integral player in the nuclear power industry since its inception over 60 years ago, and we remain at the forefront by providing a range of services and offering technical expertise that no other contractor can match. We have been involved on more than 150 nuclear power plants worldwide and have been a major architect/engineer (A/E) participant in most nuclear reactor technologies, including the AP1000. Moreover, we constructed 42 plants and were the A/E for 71 plants, with involvement ranging from conceptual engineering, plant layout, design certifications, early site permit (ESP) and combined license (COL) applications, constructability reviews, estimating, and owners engineering to full construction and commissioning services as part of consortia, in joint ventures, or as a turnkey provider.

Bechtel's ability to manage complexity on projects large and small is enhanced by a wide variety of services including our adaptive approach to managing labor, a worldwide procurement organization and operation, effective use of information technology, proactive community and regulatory relations, and the US engineering industry's largest research and development staff. This unique experience brings an unparalleled portfolio of expertise to our client projects around the world, on assignments of different sizes and complexities, with one underlying theme — an ability to deliver what others cannot, on time and to budget.

### Nuclear Plant Completion, Recovery, and Restart Experience

Bechtel has unparalleled experience in successfully completing nuclear power plants at various stages of construction and in performing recoveries and restarts of nuclear plants that have experienced interrupted operation or performance problems. In addition to designing and constructing more U.S. nuclear power plants than any other company,

Bechtel has earned a well-deserved reputation for responding to owner requests for support on nuclear power plant projects already underway. A number of utilities that had to halt projects for safety, quality, or cost reasons later turned to Bechtel to help finish their plants in a variety of capacities.

On each plant recovery, Bechtel uses proven and effective design, engineering, and construction tools and processes. We staff each recovery with qualified and experienced personnel, and we approach the work with a positive "can-do, make it happen" attitude. Our flexibility, innovation, and adaptability to changing conditions enable us to overcome challenges without affecting established completion schedules. In several cases, Bechtel validated the existing contractor engineering and design and proceeded forward with the design completion.

Currently, we are completing the EPC scope on Watts Bar Unit 2, as well as supporting Finnish utility TVO on its Olkiluoto 3 unit by providing seasoned project management, construction, and project controls personnel to baseline the project's current status and develop the best path forward for completing the unit.

Highlights of some of these projects are provided below:

**Watts Bar Unit 2 Completion**

**(2007 to present)**

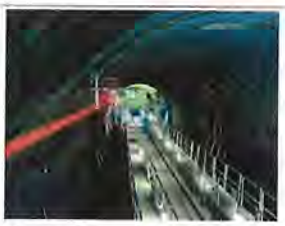
In 2007, Bechtel was selected to perform a detailed scoping, estimating, and planning phase and later was selected to perform the project's detailed engineering, procurement, and construction scope. Engineering activities have included detailed walkdowns, assembly and evaluation of original design documents, development of Corrective Action Programs, and performance of detailed design for systems interfacing with Unit 1 and for new plant construction.

Currently, construction work is proceeding well as the project has over 21 million manhours without a lost time accident (LTA) and is experiencing 98% first time quality installation inspections. The unit recently passed Cold Hydro Testing on the first try. Project completion is scheduled for the end of this year when Watts Bar 2 will provide the first power to the grid in the U.S. from a new nuclear source this century.

**Browns Ferry Unit 1 Restart (2003 to 2006)**

Bechtel provided engineering services to produce a detailed scope, cost estimate, schedules, and planning for the recovery of Browns Ferry Unit 1. Bechtel deliverables included walkdown packages, conceptual designs, development of detailed cost estimates and schedules for recovery programs and design change notices, the Unit 1 integration database, and risk evaluation. This effort correctly led to the conclusion that it was economically viable to initiate the next phase of the program to bring this plant, which had been out of service for 15 years, back on line.

Bechtel prepared all necessary plant modification packages and engineering deliverables to conform the plant to committed licensing requirements and to prepare the plant for restart. Activities included all engineering design and the management activities necessary for Plant Operating Review Committee (PORC) approval of the required modification packages. Included with the recovery effort was an EPU, which Bechtel took over to ensure that the recovery completion schedule remained on schedule. The Bechtel team worked closely with the TVA design and construction team to develop the necessary modifications to minimize actual construction activities. The engineering portion of the project, Bechtel's responsibility, was done well within schedule and under budget. The total project was completed essentially within budget and schedule. This project was selected as the Project of the Year by *Power Engineering*.



**Yucca Mountain Project (2001 to 2009)**

Bechtel led the team that managed and operated the large, complex Yucca Mountain Project for the U.S. Department of Energy (DOE), selected to replace the previous contractor. We conducted the scientific, engineering, and technical work necessary to determine the mountain's suitability as a repository for U.S. spent nuclear fuel and high-level radioactive waste. Our work culminated in preparation of the 8,600-page license application, along with 70,000 pages of supporting references that DOE submitted to the Nuclear Regulatory Commission (NRC) for a deep geologic repository. Among its many challenges, the licensing effort required us to integrate nearly three decades of scientific study and engineering design work.

Other accomplishments included:

- Completing a fast-track transition nearly $3 million under budget
- Assisting DOE in addressing all 293 NRC-DOE Key Technical Issue Agreements
- Managing and maintaining the 230 square-mile site's infrastructure, including all onsite and offsite structures, 7 miles of tunnel, a potable water system, and 50 miles of paved and unimproved roads, as well as managing an average of 1,200 personnel
- Preparing a conceptual design for more than 1,000 miles of possible rail corridor and identifying millions of dollars in potential cost savings

**Comanche Peak Units 1 & 2 Completion (1990 to 1993)**

Comanche Peak is an example of Bechtel's project management succeeding where other contractors failed. Construction of Comanche Peak was years behind schedule, almost $9 billion over the original estimate, and stopped by court order when Bechtel was asked to assume management responsibility for completing the facility. Key Bechtel managers worked with the customer to complete construction of Unit 1. In addition to normal project management activities, we assisted the customer in obtaining all necessary licenses and establishing credibility with stakeholders in the operation of a nuclear facility. In only two years, Unit 1 reached commercial operation.

Because of our management performance and the credibility we established with the stakeholders on Unit 1, the customer asked Bechtel to complete design, construction, and startup of Unit 2. Our management of this effort resulted in 2.5 million safe job hours and NRC characterization of Unit 2 management as "excellent."

**South Texas Project (STP) Units 1 & 2 Completion (1981 to 1989)**

After the NRC shut down construction because of quality noncompliance by a previous contractor, Bechtel completed the project, meeting all NRC design, construction, safety, and quality licensing requirements ahead of schedule. In late 1981, the owners of STP were faced with some very grim statistics and a tough decision. The project was 4 years behind schedule, and project costs had risen considerably from the original $974 million estimate. In addition, an NRC Show Cause order seriously impeded construction. The combined factors of schedule and cost, the regulatory atmosphere so soon after Three Mile Island, and difficulties with design and construction could have led to the complete cancellation of the project, as was the case with other U.S. plants in the same time frame.

Bechtel assumed management responsibility for engineering, procurement, and construction management of STP in 1981. The transition to Bechtel management was complex, requiring the transfer of over 200,000 documents. In August 1982, less than 1 year after assuming responsibility, Bechtel submitted a cost estimate and schedule for completing the project. The previous 8-month schedule delay due to temporary shutdown of construction was recovered, and an additional 11-month saving was achieved. The $5.5 billion budget for total project cost and the construction completion dates established were achieved, with Units 1 and 2 going into complete commercial operation in mid-1987 and mid-1989, respectively.

## Major Modification Experience

In addition to providing services to new nuclear projects in the U.S. and around the world, Bechtel has honed both its resources and processes and procedures on a number of large scale nuclear plant modification projects, including Extended Power Uprates and Steam Generator Replacements. Bechtel has been very successful in delivering these highly complex projects, and they have given our personnel recent, relevant experience in nuclear power plant engineering, procurement, and construction.

**Extended Power Uprates (EPU)**

Most, if not all, of the skills learned and knowledge brought to bear on EPUs are transferable to new build nuclear projects. EPUs are particularly challenging as personnel are working in the tight, cramped corners of an operating nuclear facility.

Bechtel recently completed highly successful EPU programs at Turkey Point Units 3 & 4 (in 2013), St. Lucie 1 & 2 (in 2012), and Point Beach 1 & 2 (in 2011). These were major engineering, procurement, and construction efforts valued at over $2.5 billion with in excess of 12 million jobhours, increasing each unit's output by over 100 MW — the largest uprate outages in U.S. nuclear history. These mega-projects required significant technical resources, including feasibility studies and engineering evaluations and analyses. There was also significant integration required with the plant outage schedules as the plant modifications had to be performed over several outages. All of the extensive modifications were designed, installed, and tested in discrete work packages meeting INPO good practices guidelines, as well as customer quality and procedural guidelines.

The program also received numerous industry awards, including the Nuclear Energy Institute's Top Industry Practice (TIP) award for U1R33 outage performance for Point Beach and supported the owner's recognition under OSHA's Voluntary Protection Program (VPP) Star by logging over 1 million jobhours without an LTA or recordable injury. Turkey Point was recognized as *Power Magazine's* 2013 Project of the Year—Best Nuclear Project and logged over 7 million jobhours without an LTA.

While SGRs and RPVHRs are not the same as new build nuclear plants, they share many of the same design, planning, procurement, construction, and safety aspects. Bechtel has performed 35 SGRs, more than any other contractor.

Bechtel successfully completed the SGR at Davis-Besse on

**Steam Generator & Reactor Pressure Vessel Head Replacements**

an EPC basis in 2014 and was awarded the SGR at Beaver Valley Unit 2, which is now in the early planning phase.

Further, Bechtel innovation and continuous improvement has set and re-set industry records including:

- Shortest overall replacement schedule ever achieved
- Lowest US SGR accumulated radiation exposure
- First US one-piece replacement
- First US replacement using a through-wall replacement
- First replacement using the channel-head cut method
- Largest and heaviest steam generators ever replaced in the US

**AP1000 Experience**

Bechtel is very familiar with the WEC AP1000 design and has provided support through the preparation of design criteria, development of cost estimates, preparation of BOP conceptual design, and provision of licensing support.

In the 1990s, Bechtel participated in the design of the AP600, the AP1000's precursor design. Our support to WEC included overseeing the base design and analysis of the Nuclear Island as lead A/E; preparing equipment specifications, plant overall design criteria and sections of Standard Safety Analysis Report; providing licensing support and ITAAC development; and providing input to construction schedules and cost estimates.

A brief overview of Bechtel's recent experience with the AP1000 is provided below:

- Bechtel was WEC's original EPC partner for AP1000 units at Sanmen and Haiyang; however, we did not proceed due to nuclear liability concerns.
- In 2012, Bechtel worked closely with WEC (including a site visit to Sanmen in China) to potentially enter into a consortium to bid two AP1000 units in Poland, which has subsequently been put on hold by the Polish government.
- Over the past two years WEC has asked Bechtel for specific expertise (e.g. containment design) on several occasions when they have had difficulty resolving design issues or defending design criteria with the NRC.
- Bechtel led the preparation of a Dominion-DOE cost shared study to evaluate construction technologies, schedules, and decommissioning costs of advanced reactors, including the AP1000.
- Bechtel developed AP1000 site layouts for the River Bend and Grand Gulf sites for Entergy when they were looking at new nuclear.

In addition to the experience described above, Bechtel has performed the following licensing activities for the AP1000 design:

- **V.C. Summer Units 2 & 3** – Bechtel was the COL prime contractor and prepared the entire COL application, including the FSAR, Environmental Report, Emergency Plan, and Security Plan, along with all supporting engineering and analyses and support for NRC review.
- **Vogtle Units 3 & 4** – Our project responsibilities included site evaluations, cost and schedule estimates, preparation of the ESP application and COL application, and support of the NRC review. Bechtel is currently providing some limited engineering support to Southern for the construction effort.
- **Turkey Point Units 6 & 7** – Bechtel prepared the entire COL application, including the FSAR, Environmental Report, Emergency Plan, and Security Plan, and we are currently supporting the NRC review. Bechtel also prepared the Site Certification Application (similar in content to the COL application Environmental Report) that was recently approved by the State of Florida.

## ATTACHMENT 4
## ASSESSMENT TEAM RESUMES

Resumes for the proposed Assessment Team are provided on the following pages.

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# Michael J. Lewis

## Executive Management

### Education

- BS, Civil Engineering, North Carolina State University
- Construction Executive Management Program, Texas A&M University
- Program for Manager Development, Duke University

**Mike Lewis is a Bechtel Senior Vice President—one of only about 35 such senior managers in a company of nearly 55,000 employees—who has managed various first-of-a-kind and highly complex projects, including civil projects, power plants, weapons managment facilities , and a high-level nuclear waste vitrification plant. Mike has been with Bechtel for his entire 38-year career, distinguishing himself as a problem solver and safety champion in increasingly responsible positions. He has a strong record of building close-knit, integrated teams and initiating time-saving, practical solutions to increase safety, meet milestones, and enhance productivity. He has successfully managed large construction projects with workforces exceeding 10,000; multiple subcontractors; complicated logistics; and significant security concerns.**

### Manager of Construction

**2014–Present:** Currently, Mike provides functional and operational oversight to construction personnel located in various Bechtel global execution units including all of our nuclear projects. He is responsible for the successful completion of activities related to construction. He ensures effective overall administration and technical direction, coordination, and direct line responsibilities. Mike controls construction operations in the field and office construction-related activities through subordinate managers within large, complex business operations and business units.

### Proposal Manager, Keeyask Generating Station—General Civil Works

**2013–2013:** As the Proposal Manager, Mike was responsible for the development, approval, and finalization of the winning $1.4 billion general civil contract award. Using his extensive management and construction background, he established standards to meet organization objectives in proposal activities, assisted in the preparation and review of the proposal, and directed proposal development. The Keeyask Generating Station project involves development and construction of a 695-MW hydroelectric generating station at rated capacity (630 MW at firm capacity) on the lower Nelson River approximately 460 miles northeast of Winnipeg, Manitoba, Canada. The project includes the General Civil Works contract for all temporary and permanent structures and related works, including the spillway, dams, dykes, channels, excavations, and roads, as well as the generating station itself and the construction of the camp and other related infrastructure.

### Project Manager, Oman Airport Expansion

**2012–2013:** Mr. Lewis was the Project Manager for a Bechtel-led consortium designing and building a new $1.8 billion passenger terminal complex at Muscat International Airport in Oman. The airport, which was handling about 6 million passengers per year, at terminal expansion completion in 2014 had a capacity of 12 million passengers. The project also included two office buildings, a four-star hotel, two five-level parking garages, and other support structures and roadwork.

### Operations Manager, Bechtel Civil

**2009–2011:** Mike provided executive level oversight to a wide range of infrastructure projects in North America, Europe, and the Middle East, including hydro and rail projects and airports. His responsibilities include oversight of the Kemano Backup Tunnel Project, a 10-mile-long power

tunnel, and an eight-unit underground powerhouse with 850 MW capacity. He was responsible for ensuring that projects met customer expectations and had the necessary resources.

**Manager of Construction, Bechtel Australia Pty, Ltd**
**2007–2009:** Mike was responsible for oversight of global construction activities for Bechtel's Mining and Metals Global Business Unit. Specific duties included field non-manual staffing, industrial/employee relations, craft hiring and staffing, developing and promoting standardized construction work processes, training, and employee development.

**Manager of Construction, Hanford Waste Treatment and Immobilization Plant (WTP) Nuclear Project**
**2005–2007:** Mike was responsible for managing the construction portion of this $12.2 billion facility to process and stabilize 53 million gallons of nuclear and chemical waste. The construction site encompasses 64 acres and includes four major nuclear facilities, the largest of which, the Pretreatment Facility, has a footprint equivalent to four football fields (about 753,000 $ft^2$) and will be 12 stories tall when completed. Mike was also responsible for relationship management with the Union Building Trades performing work to NQA-1 standards.

**Project Manager, Pueblo Chemical Agent-Destruction Pilot Plant**
**2002–2005:** As the Project Manager, Mike was responsible for providing overall leadership and strategic planning/guidance to the customer and the project team on this $1.2 billion EPCC plant to neutralize and biodegrade 2,535 tons of mustard agent stored at the Pueblo Army Depot in Colorado. He led a diverse integrated team that included Washington Group, Parsons, and Battelle.

**Project Operations Manager, Bechtel National, Inc. Defense and Space Projects**
**2001–2002:** Mike provided support and oversight for business sector project managers; developed customer relationships; and implemented feedback systems to monitor project performance and customer satisfaction.

**Project Manager, Anniston Chemical Agent Disposal Facility**
**1998–2001:** Mike was responsible for overall financial and technical performance and execution of engineering, procurement, construction, and testing of this $314 million fixed-price grassroots plant designed and constructed to dispose of chemical weapons stored at the Anniston Army Depot in eastern Alabama.

**Manager of Construction, Nevada Test Site**
**1995–1998:** Mike managed a large workforce performing underground and aboveground construction work, environmental remediation, facilities modifications, and new facilities construction at this 1,375 square mile National Nuclear Security Administration facility that includes over 1,100 buildings, 398 miles of paved roads, and 200 miles of unpaved roads.

**Construction Manager, Nuclear Weapons Storage and Security Systems Project**
**1995:** Mike managed construction on this 10-year, $206 million program to install 16 weapon vault systems at 15 NATO bases in 7 countries.

**Construction Manager/Project Field Engineer/Contract Administrator, Cowlitz Falls Hydroelectric Project**
**1991–1995:** As the Project Manager during the operations and maintenance phases of this $50 million contract, Mike directed construction and operation of a 70 MW dam and powerhouse in west-central Washington State.

**Project Manager/Plant Manager/Field Engineer, New Martinsville Hydroelectric Plant**
**1986–1990:** Mike supervised the operations and maintenance of this 34 MW low head run-of-river bulb turbine hydroelectric plant attached to the U.S. Army Corps of Engineers Hannibal Lock and Dam on the Ohio River in West Virginia.

**Field Engineer/Plant Engineer, Bechtel**
**1976–1985:** Mike learned his skills while working on numerous nuclear, government, and mining projects.

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# Michael S. Robinson

## Project Management and Construction

### Education

- BS, Mechanical Engineering, Brown University
- Graduate Studies, Environmental Engineering, Penn State University

**Mike Robinson has more than 23 years of experience in project and construction management, business development, and proposal development and estimating. His expertise encompasses management of projects and teams with a range of technologies, and contract structures with focus on operating facilities. He was elected a Bechtel Principal Vice President in 2013.**

### Project Manager

**2015–Present:** Currently, Mike supports the Nuclear, Security and Environmental Business assisting owners on ongoing projects and developing new opportunities.

### Project Manager, Panda Temple Combined Cycle Project

**2013–2014:** Mike served as the consortium lead and had overall EPC execution responsibility for Bechtel on a lump sum 2x2x1 combined-cycle project located on a greenfield site in Texas. After taking over the project at approximately 50 percent complete, he oversaw the completion of engineering design, globally sourced equipment and material delivery, construction, and commissioning. The project was completed and turned over to the customer 2 weeks ahead of schedule with plant performance better than guarantee. The project staff peaked at over 1,000 craft, subcontractors, and non-manuals who worked more than 2.5 million job-hours without a lost-time accident (LTA). Mike also served as project manager for Temple II CC project, a replicate plant adjacent to the Temple project, during the first 8 months of execution before focusing solely on the commissioning and completion of the Temple project.

### Project Manager, Turkey Point Extended Power Uprate (EPU) Project

**2012–2013:** Mike was responsible for managing key execution activities on a complex uprate project at an operating two-unit nuclear facility in southern Florida that included two of the largest planned uprate outages in U.S. nuclear history. He took over as the project manager immediately before the U3R26 outage, which experienced a 30 percent increase in jobhours after breaker open because of design evolution and emergent conditions. He focused on implementing lessons learned and other improvements during an abbreviated period between outages. This led to significant improvements in cost and schedule execution for the final U4R27 outage—Bechtel completed the critical path work 1 week ahead of schedule and finished 8 percent under the scope-adjusted pre-outage budget. The project's first-time quality and execution performance earned special recognition from the customer. Bechtel's portion of the project was approximately $900 million and was staffed with upwards of 400 non-manuals and 1,600 craft and subcontractors onsite during the outages. The project worked over 7 million jobhours without an LTA; was recognized as *Power Magazine*'s 2013 Project of the Year—Best Nuclear Project; and earned Bechtel's 2013 Project Management Excellence Award.

### Site Manager, Point Beach EPU Project

**2009–2011:** Mike managed the field execution of the Point Beach EPU project in Wisconsin, Bechtel's first large-scale EPU project in the construction phase. Principal duties included managing construction personnel staffing, coordinating craft resources and labor relations, implementing the Bechtel safety and quality programs, and interfacing with senior customer personnel. The project worked over 1 million jobhours without an LTA or OSHA recordable injury.

Executive Assistant

**2008–2009:** Mike assisted the president of Bechtel Power on commercial, execution, and personnel issues by developing draft policies, presentations, and executive letters. He also supported estimate reviews, project execution reviews, and corporate and business line policy discussions.

Business Development Manager

**2006–2008:** Mike managed the development of fossil power projects, including proposals, with emphasis on solid fuel and emissions retrofit projects. He negotiated services agreements and engineering, procurement, and construction (EPC) contracts. Bechtel was initially awarded two large projects (a $1 billion greenfield coal plant and a $1 billion multi-project site air quality control upgrade program) that Mike supported before they were cancelled because of changes in market conditions.

Startup Engineer, Springerville Expansion Project

**2005–2006:** Mike undertook a rotational assignment as a startup engineer on a lump-sum, 400 MW, pulverized coal-fired project in Arizona. He was responsible for commissioning the AQCS systems.

Project Estimating/Proposal Development Manager

**2002–2005:** As an Estimating Manager, Mike coordinated estimating activities for power projects worldwide. He represented the Estimating department during customer discussions and internal management reviews. He developed budgets and schedules for estimates and proposals under his sponsorship; prepared, reviewed, and presented lump sum, indicative, and order of magnitude estimates as necessary to support the Power business line; and supervised and trained new project estimators. As a proposal development manager, he worked with the Business Development department to define proposal strategies. He coordinated and managed engineering, procurement, construction, contracts, and estimating activities during the proposal process and reviewed proposal documents, including scope books, schedules, and contracts.

Estimating Supervisor, Project/Mechanical Estimator

**1997–2002:** As a supervisor, Mike supervised Power's Mechanical Estimating group and coordinated estimating efforts in the Asia-Pacific region and for solid fuel projects worldwide. He assigned work tasks, monitored progress with respect to quality, oversaw schedule and budget compliance, and reviewed completed work products. He represented the group and the Estimating department during planning meetings, management reviews, and open book reviews with customers. As an estimator, Mike was responsible for the preparation of lump-sum grassroots construction, modification, and demolition of fossil and nuclear power plants world-wide.

Construction/Resident Engineer – Various Refineries

**1994–1997:** During this period, Mike was assigned to three refineries and performed a variety of activities. At the Sun Oil Girard Point Refinery, he developed work scopes and provided detailed engineering for capital projects, determined mechanical equipment specifications, ordered materials, and qualified vendor bids. He also supported cost estimate development and monitored project installation to ensure technical and budget compliance. For the BP Oil Refinery, he developed a pressure vessel inspection program using specifications provided by the customer to bring the refinery into compliance with OSHA 1910. He supervised the daily activities of the group during implementation, tracked project scheduling, and interfaced with customer supervision. He performed walkdowns of process piping to support the Chevron USA Refinery reliability program, determined as-built configuration of piping systems, and calculated inspection points for affected systems.

Superintendent/Field Engineer – Various Commercial Nuclear Facilities

**1991–1993:** At the Hope Creek/Salem nuclear plants, Mike supervised the installation of an environmental spill containment for the emergency gas turbine unit. He also managed pipefitters during two service water piping replacement projects.

From June to November 1992, Mike supervised the installation of piping and instrumentation at Turkey Point Nuclear Plant. He interfaced with customer engineering to resolve constructability concerns, testing piping systems, and assisted in the recovery efforts following Hurricane Andrew.

From October 1991 to June 1992, Mike reviewed and completed pipe, hanger, and mechanical equipment design change packages for the Comanche Peak Generating Station.

In an earlier assignment at Turkey Point from June to September 1991, he monitored the installation of pipe, hangers, and instrumentation tubing. He also tested pipe and instrument lines and turned over assigned systems to Startup.

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# Ronald L. Beck

## Project Management and Engineering

### Technical Qualifications

- Over 40 years of nuclear experience, including 17 in design engineering and licensing, 18 on SGR and RVHR projects, and 5 in next-generation nuclear (EPR, SMR) project management
- Registered Professional Engineer in Maryland (retired); inactive in Mississippi, South Carolina, Tennessee, Texas, and Virginia
- Member of ASCE
- Author of several published technical papers (available on request)

### Education

- ME, Civil Engineering, Virginia Polytechnic Institute (Structural Engineering Major)
- BS, Civil Engineering, Virginia Polytechnic Institute
- Bechtel Certification, Project Manager Level II

**Ron Beck has spent his entire career in the nuclear power industry. He has a strong civil engineering background and many years of design engineering and field experience, with a solid foundation in the details of work planning and execution. He was project manager for three steam generator replacement (SGR) projects, assistant project manager for one SGR project, and shift outage manager for two reactor vessel head replacement (RVHR) projects. His background also includes civil design work on Grand Gulf, South Texas Project, and Watts Bar. He is a highly dedicated leader with strong technical skills, effective management capabilities, and the ability to motivate teams to successful outcomes.**

### Project Manager

**2010–Present:** For the Generation mPower small modular reactor (SMR) project, Mr. Beck has been responsible for all aspects of Bechtel's scope and project execution and for interface with Generation mPower LLC and Babcock & Wilcox (B&W), as well as potential customers, Industry Advisory Council members, management committee members, and regulatory agencies. His responsibilities include overall management of 230+ professionals, including engineering, licensing, project cost and schedule, procurement and contract functions.

Mr. Beck also managed the Bechtel engineering team and the integration of Bechtel's scope with B&W's Nuclear Island scope and participated in a due diligence assessment as project manager, civil/structural reviewer, construction reviewer, and overall report preparer. The report outlined the results of the assessment regarding investing in a specific new generation nuclear technology.

**2008–2010:** Mr. Beck was the responsible project manager for the Bell Bend US EPR nuclear power plant project. He supported AREVA's preparation of responses to the NRC's requests for additional information in conjunction with the design certification process; managed an optimization study; participated in construction schedule development; worked with PPL on updating the site utilities plot plan for its Combined License application; and oversaw the development of budgets, schedules, and reports.

**2008:** Mr. Beck oversaw the development of the long-range strategic plan for the SONGS SGR project. The work involved developing the preoutage schedule encompassing Bechtel's work from 2008 through 2010 and the Cycle 15 and Cycle 16 (SGR) outage schedules for Bechtel's work and integrating these schedules into the client's online and outage work schedules.

**2007:** Mr. Beck assisted in developing the long-range construction plan for completing the Watts Bar Nuclear Station Unit 2 reactor building structures, systems, and components as part of the restart project.

**2007:** For the Palo Verde Nuclear Generating Station Unit 1 SGR project, Mr. Beck managed all aspects of removing and relocating the V651 valve in the reactor coolant system ASME Class 1 shutdown cooling line to support long-term plant operability and reliability.

**2006–2007:** As plan coordinator for the SONGS SGR project, Mr. Beck managed the development and submittal to the client of 50-plus management, engineering, and construction plans and 30-plus specific contract deliverables describing the methods and approaches Bechtel would employ to

execute its SGR work scope. He also supported the project manager on project commercial and technical issues.

**2005:** For the Palo Verde Unit 3 SGR project, Mr. Beck managed the installation of a vortex elimination plate in the reactor coolant system ASME Class 1 shutdown cooling line. The plate was later removed as a result of system testing.

**2004–2005:** Mr. Beck managed or supported proposals for the Turkey Point Units 3 and 4 and St. Lucie Units 1 and 2 RVHR projects; the Crystal River Unit 3 SGR project; the Bruce A Units 1, 2, 3, and 4 SGR projects; the Diablo Canyon Units 1 and 2 SGR projects; the SONGS Units 3 and 4 SGR projects; the SONGS Units 2 and 3 and Palo Verde Units 1, 2, and 3 RVHR studies; and the Palisades RVHR project.

Shift Outage Manager

**2003:** For the Surry Power Station Units 1 and 2 RVHR project, Mr. Beck interfaced with client, subcontractor, and Bechtel personnel to develop the schedule; attended client/Bechtel plan-of-the-day meetings; interfaced with client and Bechtel personnel on day-to-day operations, including action item meetings and task reviews; and managed Bechtel's day shift containment work during each unit's replacement outages.

Project Manager

**2002:** Mr. Beck managed several SGR project proposals, an RVHR project study for two nuclear units, and an independent third-party SGR project cost estimate study review for a nuclear utility.

**2000–2001:** For the Shearon Harris SGR project, Mr. Beck directed all aspects of engineering, construction, procurement, quality, cost, and schedule; coordinated interfaces with the client and subcontractors; and interfaced with Bechtel senior management, global and regional industry unit and execution unit management, and home office functional departments.

**1996–2000:** For the South Texas Unit 1 SGR project, Mr. Beck had the same duties as for the Harris project.

**1995–1996:** Mr. Beck developed generic SGR project core team operations and was a member of the team that developed a Bechtel/Westinghouse teaming agreement for SGR projects. He also developed competitively bid SGR projects and sole-source negotiated SGR awards, including the first South Texas Unit 1 SGR involving the Bechtel/Westinghouse agreement.

**1992–1994:** For the Virgil C. Summer SGR project, Mr. Beck had the same duties as for the Harris project. He also planned and mobilized direct-hire and field subcontracts; interfaced with the client for design, procurement, and field activities; developed and negotiated subcontracts; directly participated in onsite work activities during outage and nonoutage periods; and was directly involved in quality assurance activities.

**1991–1992:** For the ASCO Units 1 and 2 SGR project, Mr. Beck managed photogrammetry and interference walkdowns, the redesign of the biological shield wall, preparation of the technical specification, and technical evaluation of replacement steam generator fabrication proposals. He also managed SGR studies for St. Lucie Unit 1 and for Mitsubishi Heavy Industries, Ltd. in Japan.

Assistant Project Manager

**1989–1991:** For the Palisades SGR project, Mr. Beck provided management overview of the engineering team and management support to the cost and schedule supervisor for schedule and budget control. He assisted in coordinating Bechtel's client interface on licensing and other high priority issues and coordinated the development of the SGR outage schedule with the SGR project team (management, engineering, construction, procurement, subcontractors, and client). As night shift outage coordinator during the replacement outage, he coordinated Bechtel's night shift construction activities with the client and the client's contractors. During job closeout, he assisted the project manager and field services manager with closeout activities, including engineering as-built package completion, contract compliance closeout, outage work activity completion, and licensing and quality assurance review closeout.

Project Engineer/Project Engineering Manager

**1985–1989:** For the South Texas Units 1 and 2 project, Mr. Beck supported the civil/ structural, pipe stress and pipe support, architectural, and plant design layout disciplines. He directly interfaced with the client in completing engineering design, licensing, and engineering assurance activities associated with these disciplines. He also assisted in managing the contractual and legal aspects of

the project's main cooling reservoir; coordinated interfaces with the project's constructor and client and Bechtel management; and directed the coordination of engineering activities associated with Unit 1 hot functional testing, including development of engineering hot functional test procedures for thermal and vibration monitoring.

Design Engineer/Group Leader/Engineering Supervisor

**1972–1985:** Mr. Beck was assigned to the Grand Gulf Nuclear Station Units 1 and 2 project. Initially, he developed various preliminary design studies subsequently used for input to the Preliminary Safety Analysis Report and to project cost and final design studies. He reviewed cooling tower structural design calculations, wrote and administered a subcontract for cooling tower foundation piling installation, and wrote piping technical specifications. Later he supported various site engineering tasks and completion of final ultimate heat sink basin structural designs and assisted in managing group design activities. Subsequently, he led the design activities associated with the reactor containment building (RCB) and site and managed a specialized task force performing dynamic loading analysis of the BWR Mark III RCB. He supervised development of the Final Safety Analysis Report sections associated with the RCB and other Seismic Category I site facilities. He participated in regulatory hearings with the NRC and the Advisory Committee on Reactor Safeguards in conjunction with the RCB dynamic analyses and assisting in supervising civil/structural design activities. Ultimately, he was responsible for all civil/structural engineering design activities associated with Unit 2.

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# Randolph S. McCarraher, PMP

## Project Management and Project Controls

### Technical Qualifications

- Member, Project Management Institute (PMI)
- Certified Project Management Professional (PMP)
- Certified Bechtel Project Manager Level I

### Education

- Certificate, Electronics, Western Montgomery County Technical School
- AAS, Construction Management, Frederick Community College
- Certificate, International Business Management, Georgetown University

**Randolph (Randy) McCarraher has over 35 years of experience in the EPC/EPCM industry in positions in field engineering, contracts, project controls, project management, and business development. Randy has a global view of what it takes to complete a successful project, as his experience includes working in North and South America, Australia, Europe, and the Asia Pacific region as well as India, and it includes projects in the Power (fossil and nuclear); Oil, Gas and Chemical; Government Services; Telecommunications; Mining & Metals; and Industrial business lines. He is a manager who can get the tough jobs done due to his strong technical skills, his ability to teach and mentor young employees, and his performance-based leadership skills.**

### Project Development Manager, Nuclear Power

**2012–Present:** In his current role, Randy is responsible for identifying, evaluating, and recommending prospective new work in the nuclear business line including strategic market development and penetration. He develops strategy and directs preparation of proposals and presentations for new business opportunities and establishes and maintains effective customer relationships. In addition to these duties, he has been deployed to provide project management leadership at two EPU outages and has led teams to perform project management/construction readiness reviews at Hinkley Point C (UK), Bruce Power (Canada), and Olkiluoto 3 (Finland).

### Project Manager, UniStar Nuclear Project

**2011–2012:** As Project Manager, Randy was responsible for screening all cost and schedule optimization opportunities and overseeing preparation of the final report and presentations to UniStar/EDF senior management on project status of this U.S. EPR project.

### Deputy Project Director, Turkey Point, St. Lucie, and Point Beach EPU Projects

**2010–2011:** Randy assisted the project director in managing the EPU projects across the three jobsite locations. His specific responsibilities included leading the effort to re-baseline both the St. Lucie and Point Beach projects, participate in contract negotiations for implementing a "target price" commercial structure, and leading implementation of the AST/CREFS modification during the Point Beach outage in early 2011.

### Project Manager for Services, Calvert Cliffs Unit 3 Project

**2009–2010:** As Project Manager, Randy was responsible for the management of all work other than the engineering detailed design activities in support of developing the Calvert Cliffs U.S. EPR project. His responsibilities included developing and implementing work processes, procedures, and control tools; monthly reporting to monitor and control the work; daily coordination with the consortium partner and client; and providing project status to both internal and external customers.

### Business Manager, Elm Road Generating Station

**2006–2008:** As Business Manager, Randy managed all commercial systems including cost, schedule, accounting, and prime contract administration. He provided technical direction to project controls personnel in the home office and field. He interfaced daily with team members to ensure

compliance with the project execution strategy and objectives and provided status information to project team members and senior management. He also interfaced with the owner and subcontractors and assisted the project manager with other duties as assigned.

**Assistant Project Manager, Worsley Alumina Project**

**2005–2006:** Randy was responsible for managing the project from the proposal stage through execution and closeout activities. His specific responsibilities included providing oversight and direction to the Contracts, Procurement, IS&T, Administration, Office Services, Accounting, Project Controls, Prime Contracts Administration, and Human Resources departments.

**Business Support Manager, Mining & Metals**

**2004–2005:** Randy was responsible for reviewing the Mining & Metals Global Business Unit (GBU) business management systems and upgrading them as necessary to facilitate standard reporting across the GBU. He conceptualized and developed a commercial database allowing comparison of historical and active projects, and he provided support to the proposal development process.

**Project Controls Functional Manager, Bechtel Telecommunications and Industrial**

**2002–2004:** Randy provided functional oversight for projects in North America to ensure correct application of cost/schedule control tools and accurate analysis. He also administered personnel functions for project controls employees and interfaced with senior management to ensure that project needs were being met and future needs anticipated.

**Project Controls Functional Manager, Bechtel Power**

**2000–2002:** Randy provided functional oversight for fossil projects in North America to ensure correct application of cost/schedule control tools and accurate analysis. He administered personnel functions for project controls employees and interfaced with global and regional business unit managers as well as project managers to ensure continuous fulfillment of project needs.

**Business Manager, Hsin Tao Combined Cycle Project**

**1999–2000:** Randy was responsible for all cost- and schedule-related functions, prime/subcontract administration, and commercial operations. He interfaced with team members to ensure compliance with the project execution strategy and objectives, provided status information to team members and senior management, interfaced with the owner/contractors, and assisted the project manager with other duties as assigned.

**Project Controls Supervisor, Nuclear OMV Core Team, TermoEmcali, Dabhol, and Perryman Projects**

**1993–1999:** On the Nuclear OMV Core Team, Randy's responsibilities included analyzing utility and industry data to identify potential business opportunities, performing detailed financial analysis of target facility operating budgets, and developing future budget models. He supported business development by developing oral and visual presentation material.

On the TermoEmcali project, Randy supported project development efforts, performing bid package analysis for Power Island and construction services contracts.

On the Dabhol project, Randy supervised day-to-day operations and provided technical direction as required. He ensured accuracy and timeliness of project reports and provided special reports/studies to management.

On the Perryman Unit 51 project, Randy monitored the budgets, prepared monthly management reports, developed trend and scope change estimates, and supervised startup/closeout activities.

**Project Planner/Cost & Scheduling Engineer/System Planner, Hershey Foods, Chevron/Bechtel Alliance Philadelphia Refinery, Lipari Landfill Superfund, Limerick, and Peach Bottom Projects**

**1988–1993:** Randy's responsibilities included providing cost and schedule support, developing and issuing weekly and monthly management reports, developing budgets and cash flows, estimating lump sum contracts, preparing quarterly financial updates, and supporting business development.

**Electrical Field Engineer, Limerick, Pilgrim, Palo Verde, and Byron Projects**

**1979–1988:** Randy was responsible for reviewing drawings, compiling and maintaining open items punch lists, implementing design change packages during outages, reviewing startup work authorizations for work scope and material requirements, distributing work, and resolving field engineering problems.

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# Edward (Ed) A. Sherow

## Design and Licensing

### Technical Qualifications

- Six Sigma Champion

### Education

- BS, Electrical Engineering, Rensselaer Polytechnic Institute

**Ed Sherow has over 42 years of engineering experience in the nuclear and fossil power industry, focusing on all phases of power plant activities, with specific background in electrical. He has worked on numerous projects throughout his career including Calvert Cliffs, Grand Gulf, Turkey Point, Brown's Ferry Units 1 and 3, and U.S. EPR.**

### Engineering Manager, Nuclear Projects

**2012–Present:** Ed Sherow is currently responsible for functional engineering management oversight and development and execution of multiple nuclear projects. His responsibilities include assistance and review of project estimates/schedules, project setup and staffing review, quality, schedule, and budget performance monitoring, project-specific process and procedural approvals, and coordination of lessons learned and experience among multiple nuclear projects.

### Nuclear Project Engineering Manager/Project Engineer, U.S. EPR, UniStar Projects

**2005–2011:** Ed managed the detailed design for the U.S. EPR 1,600 MW nuclear plant with the first plant targeted for Calvert Cliffs. He also managed the work associated with supporting the design certification support to AREVA for the U.S. EPR nuclear plant, and he managed the development and support to UniStar (Constellation) for the combined operating license application for Calvert Cliffs nuclear plant Unit 3.

### Fossil Project Engineer, Fossil Technology Group

**2005–2005:** Ed managed the development and design of fossil generation plants. His role involved supervision or coordination of multidisciplinary engineers, technical specialists, estimators, and Business Development to develop practicable proposals for fossil power projects. In this role he coordinated closely with clients.

### Task Integration Manager/Metrics Manager, Browns Ferry Unit 1 Restart Project

**2003–2005:** Ed was responsible for the overall execution and quality of work related to metrics reporting, integrated task equipment list programming and data integrity, and the training program.

### Assistant Project Manager/Project Engineer, Mountainview Project

**2001–2003:** As Assistant Project Manager, Ed's responsibilities included supervising execution planning, contract administration of the EPC agreement, contract administration of major equipment (including the GE Power Island subcontract), contract compliance, and championing other specific areas of critical concern for project success. He was also responsible for interface with the owner's project manager and for monitoring cost and schedule progress. As project engineer, he was responsible for the overall engineering of the project, including technical correctness, compliance with codes, optimization of design/installation costs, and interface with suppliers and the owner.

### Fossil Project Engineer, Fossil Technology Group

**1999–2001:** Ed managed the development and design of fossil generation plants. His role involved supervision or coordination of multidisciplinary engineers, technical specialists, estimators, and Business Development to provide proposals that realistically account for the development aspects of fossil power projects. Ed also completed a 7-month assignment at the Red Hills Generation Facility, a 440 MW CFB in Mississippi, as the Project Field Engineer responsible for all field engineering.

Multi Project Acquisition Group (MPAG) Manager, MPAG

**1996–1999:** Ed managed the electrical MPAG, an integrated cross-functional team of engineering and procurement personnel implementing the Bechtel supply chain strategy. His efforts focused on optimizing and managing cost and schedule in the delivery of equipment. Key items included interfacing power projects and suppliers, implementing standard products, making process improvements, and negotiating supplier agreements. During this period, he managed the combined Electrical/Control Systems MPAG until it was separated into two groups.

Project Manager, Substation/Transmission Engineering

**1993–1996:** In this assignment, Ed was responsible for commercial and technical operations of the Gaithersburg Substation/Transmission Engineering (STE) Group. The STE Group varied from 20 to 30 multidisciplinary engineers conducting switchyard and transmission line work directly for utilities while also supporting Bechtel New Generation projects.

Project Engineer, Browns Ferry Nuclear Unit 3

**1991–1993:** Ed's responsibilities included overseeing the electrical discipline consisting of 135 to 200 engineers preparing design modifications for upgrading Unit 3 to allow restart. His efforts included monitoring schedules for all activities; monitoring costs; interfacing with the client; supervising personnel; and preparing, evaluating, and approving proposals. He was also responsible for special projects and later the Design Change Notice (DCN) Production Group. Special projects duties included overall responsibility for the Procurement Engineering Group and engineering scheduling for restart of Browns Ferry Unit 3. For the DCN Production Group, he was responsible for a multidisciplinary group of 250 engineers preparing design modifications for upgrade of Unit 3 to allow restart. That role included monitoring schedules for all activities; monitoring costs; interfacing with the client; and preparing, evaluating, and approving DCN modification packages.

Project Engineer/Group Supervisor, Florida Power and Light (FPL) Projects

**1986–1991:** Ed was responsible for managing FPL's drawing update efforts for Turkey Point Units 3 and 4. His work included approving drawings as client representative, monitoring and controlling work output, reviewing indicators, assigning work priorities for up to 60 people, and maintaining budgets/schedules. He was also responsible for managing the design fossil operating plant services and the electrical and I&C work.

Group Supervisor, Electrical/Control Systems Group, Operating Services

**1984–1986:** Ed's responsibilities included supervising electrical and instrumentation and controls (I&C) work at various operating plants. He approved drawings, calculations, and installation packages; prepared and evaluated proposals, coordinated with vendors and the client, monitored schedules and budgets, and oversaw the electrical/control systems work of up to 20 engineers. Typical projects included addition of a precipitator for BG&E H.A. Wagner Unit 3, addition of a dry cask spent fuel storage, a radiation monitoring upgrade, and a facilities renovation for Virginia Power's North Anna and Surry Nuclear Stations. In addition, he managed installation of a natural gas warm-up for BG&E H.A. Wagner Unit 2, an upgrade of coal handling and sampling facilities for Virginia Power's Mt. Storm Plant, a conversion to natural gas for FPL's Martin plants, and use of coal water slurry as an alternate fuel for the Pfizer plant at Groton.

Group Supervisor, Electrical/Control Systems Group, Grand Gulf Units 1 and 2

**1976–1984:** In this assignment, Ed's responsibilities included approving drawings, calculations, and installation packages, preparing/evaluating proposals, coordinating with vendors/client, monitoring schedules/budgets, and supervising electrical and I&C work.

Electrical Field Engineer, Calvert Cliffs Units 1 & 2 and Grand Gulf Unit 1

**1972–1980:** Ed was responsible for installation and turnover to Startup of various plant systems. His duties included verifying system scope, walking down the system to ensure construction conformance to the design, interfacing with Design Engineering, preparing punch lists for outstanding items, and releasing systems to Startup. He was also responsible for cable installation. His other duties included verifying routing (both by drawing review and walkdowns), correcting routings, cable inspections, initiating termination installation, cable termination inspection, documentation reviews, and problem resolution.

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# Stephen D. Routh

## Design and Licensing

**Steve Routh, Senior Project Manager, has over 30 years of nuclear experience, has supported new nuclear generation efforts at various sites since 2001, and is the manager of Bechtel's New Nuclear Generation and Fukushima Response projects. He is recognized as an industry expert in nuclear engineering, safety, and licensing, and is an active member of NEI and EPRI new generation task forces and working groups.**

### Technical Qualifications

- Registered Professional Engineer, Virginia
- Six Sigma Champion

### Education

- MBA, Finance, Mount St. Mary's College
- MEng, Nuclear Engineering, Pennsylvania State University
- BS, Nuclear Engineering, Pennsylvania State University

### Memberships

- Member, American Nuclear Society
- Member, ANS SMR Task Force
- Member, EPRI Advanced Nuclear Technology Group
- Member, NEI COL Task Force
- Member, NEI Seismic Issues Task Force

### Manager, Nuclear Engineering Services

**2013–Present:** Steve is responsible for Bechtel's engineering and licensing services projects including support of operating plants, new nuclear generation, Fukushima response projects, and proposal preparation.

### Manager of New Nuclear Generation and Fukushima Response Projects

**2009–Present:** Steve is responsible for Bechtel's new nuclear generation and Fukushima response projects including:

- North Anna COL and Owner's Engineer (APWR/ESBWR)
- Turkey Point COL (AP1000)
- Calvert Cliffs COL (USEPR)
- AREVA DCD (USEPR)
- Clinch River Construction Permit Application (mPower)
- Dominion, South Texas, Watts Bar, and Constellation Fukushima response projects

He also managed Bechtel's overall Fukushima response efforts including industry representation, development of approaches and capabilities, and proposal preparation.

### Project Manager

**2001–2008:** As Manager of the ESP/COL Technology Group, Steve provided engineering and licensing oversight of Bechtel's new generation projects (Calvert Cliffs, North Anna, South Texas, Vogtle, V.C. Summer, Turkey Point, and Victoria County). He was also the project manager for the North Anna ESP project, North Anna COL and Site Engineering project, and the Turkey Point COL project.

### Manager of Regulatory Affairs

**1999–2001:** Steve was responsible for the licensing and regulatory oversight of Bechtel nuclear power projects (including Connecticut Yankee decommissioning, new nuclear generation, steam generator replacements, and operating plant services) and SERCH, Bechtel's generic licensing service.

### Licensing and Safety Analysis Supervisor, U. S. Enrichment Corporation

**1995–1999:** Steve managed the preparation of the upgraded Safety Analysis Reports for the Paducah and Portsmouth gaseous diffusion plants and managed activities for the project team including subcontractor support. He also provided detailed cost and schedule control and technical

review of revised analyses, responded to NRC questions, and interfaced with NRC and DOE personnel. He also established regulatory processes for NRC oversight.

Project Engineer for the North Anna 1, North Anna 2, and Ginna SGR Projects

**1991–1995:** Steve's duties included managing mechanical, materials, civil, nuclear, and licensing engineering activities in support of the projects, including evaluation of alternative approaches, conceptual and detailed engineering, constructability reviews, subcontractor control, and client interface.

Assistant Chief Nuclear Engineer

**1987–1991:** Steve provided nuclear licensing support to operating plant services projects in the areas of design change packages, operability and safety evaluations, justification for continued operations, Part 21s, and NRC interaction, and he assisted in the administration of the nuclear department and salary planning.

Nuclear/Licensing Supervisor

**1983–1987:** Steve prepared the safety analysis report, environmental report, and license documents for the Surry plant dry cask independent spent fuel storage installation (the first one licensed in the United States), and he supported several other operating plant services and SGR projects.

Licensing Engineer/Deputy Supervisor, Grand Gulf Project

**1980–1982:** Steve supported the licensing effort for the operating license, preparation of the FSAR, and development of the environmental report and the technical specifications. He supported NRC question responses and public hearings as well as NRC safety evaluation report review and SER open item responses.

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# Robert A. Exton

## Supply Chain Management

**Technical Qualifications**

- Member, Original Lifetime Certified Purchasing Manager, Institute for Supply Management
- Bechtel Certification—Procurement Manager

**Education**

- BS, Business Administration with Emphasis in General Management, Humboldt State University
- AS, Forestry Science, North Dakota State University

**Robert (Bob) Exton, Procurement Operations Manager for nuclear projects, has 37 years of procurement experience working on nuclear, fossil, and telecommunications projects, over half of them in the nuclear power generation industry. Bob has held positions of increasing responsibility in various field procurement managerial positions, including material management and purchasing, contracts and purchases management, and commercial leadership.**

### Procurement Operations Manager, Nuclear Power

**2008–Present:** In his current role, Bob is responsible for managing and monitoring procurement operations for all nuclear projects. His main focus the past year has been on setting up and staffing our ongoing nuclear projects in addition to overseeing activities on the other nuclear projects, drawing on past experience, lessons learned, and the Six Sigma philosophy. As an active participant at the Nuclear Energy Institute Manufacturing Outreach Workshops, Bob maintains extensive relationships with the nuclear supplier community.

### Program Procurement Manager and Deputy Program Procurement Manager, Cingular Wireless Project and the AWS Project

**2002–2008:** Bob was responsible for the procurement operations of these telecommunication projects, focusing on Materials Management. He was also responsible for the integration of the AWS project to the Cingular system and for ongoing procurement operations in support of the nationwide build program. This build program included 8 markets with a staff of 20, including material coordinators and a purchasing group.

### Proposal Manager, Power Multi-Project Acquisition Group (MPAG)

**2000–2002:** Bob was involved with all proposal efforts for power projects and was the primary representative on project development teams, providing market knowledge and strategy and ensuring that Procurement supported the development schedule.

### MPAG Commercial Lead, Balance of Plant and Electrical

**2000–2000:** Bob was responsible for managing and coordinating the buying activities in support of the power projects executed from the Bechtel Power Center of Excellence.

### Project Procurement Manager, Aleppo, Quezon and Dabhol Projects / Nuclear Operations

**1991–2000:** Bob was responsible for developing, negotiating, and administering purchase orders and subcontracts for three fossil power projects in the Middle East and Asia. On the Aleppo Project, Bob was responsible for final equipment buyouts, expediting, inspection, traffic and logistics and shipment of remaining equipment and services.

Additionally, Bob was involved in the development of new power plant construction projects. In this Nuclear Operations role, he was responsible for coordinating procurement activities associated with the North Anna Unit 1 SGR, V.C. Summer SGR, and FURNAS project and for the issuance and administration of major lump sum subcontracts.

Senior Contracts/Purchases Supervisor Specialist, Palisades Steam Generator Replacement
**1989–1991:** Bob was responsible for negotiating and issuing major lump sum subcontracts and purchase orders.

Contracts/Purchases Supervisor Specialist, Limerick Nuclear Project
**1987–1989:** Bob was responsible for coordinating purchasing activities, administering assigned blanket orders, and supervising closeout of home office contracts and field purchase orders.

Contracts/Purchases Supervisor/Specialist Buyer/Spare Parts Supervisor/Warehouse Receiving Supervisor, Palo Verde Nuclear Project
**1978–1987:** Bob was responsible for assisting in forecast planning, conducting training on procedures, and reporting progress to the client and engineering.